Objective Questions

Chapter-02 : Definitions

1. The distance sufficient to ensure safety is called ___________ (a)
   a) Adequate distance
   b) Clear distance
   c) Safety distance
   d) Marginal distance

2. ___________ means special instructions approved of or prescribed by the Commissioner of Railway Safety (b)
   a) Special instructions
   b) Approved special instructions
   c) Instructions
   d) Notice

3. The person who is duly empowered by general or special order of the Railway administration, either by name or by virtue of his office, to issue instructions is called ___________ (a)
   a) Authorised officer
   b) Special officer
   c) Driver
   d) Guard

4. The authority given to the Driver of a train, under the system of working, to enter the block section with his train is called ___________ (a)
   a) Authority to proceed
   b) Caution order
   c) Speed restriction
   d) Temporary order

5. To despatch a message from a block station intimating to the block station immediately in rear on a double line, that the block section is obstructed or is to be obstructed is called ___________ (b)
   a) Block section
   b) Block back
   c) Block forward
   d) Block limit

6. To despatch a message from a block station intimating to the block station immediately on either side on a single line, that the block section is obstructed or is to be obstructed is ___________ (b)
   a) Block section
   b) Block back
   c) Block forward
   d) Block limit

7. To dispatch a message from a Block station on a double line intimating to the Block station immediately in advance the fact that the block section in advance is obstructed or is to be obstructed is called ___________ (c)

a) Block section

b) Block back

c) Block forward

d) Block limit

8. The portion of the running line between two Block stations on to which no running train may enter until Line clear has been received from the Block station at the other end of the block section is ___________
(a)

a) Block section

b) Station section

c) Block forward

d) Block limit

9. ___________ means an arrangement of Signalling on double line in which a long block section is split into two portions each constituting a separate block section by providing an Intermediate Block Post (a)

a) **Intermediate block signalling**

b) Block section

c) Intermediate siding

d) Siding point

10 An arrangement, secured by the setting of points or other approved means, to protect the line so isolated from the danger of obstruction from other connected line or lines is called ___________ (a)

a) Isolation

b) Shunting

c) line clear

d) Last stop signal

11. Points are said to be ___________ when by their operation a train approaching them can be directly diverted from the line upon which it is running (b)

a) Trailing point

b) Facing Point

c) Trap point

d) Fixed point

12. ___________ means the mark at which the infringement of fixed Standard Dimensions occurs, where two lines cross or join (c)

a) Fouling Bar

b) Fouling Mark

c) Fouling

d) Lock Bar

13. ___________ means an arrangement of signals, points and other appliances, operated from a panel or lever frame, so interconnected by mechanical locking or electrical locking or both that their operation must take place in proper sequence to ensure safety. (a)

a) Interlocking

b) Non- interlocking

c) Pre-NI

d) Improper connection

14. ___________ means a class `C' station on a double line, remotely controlled from the Block station in rear (a)

a) **Intermediate block post**

b) Intermediate block signalling

c) Interlocking

d) Isolation

15. ___________ means an arrangement, secured by the setting of points or other approved means, to protect the line so isolated from the danger of obstruction from other connected line or lines (d)

a) **Intermediate block post**

b) Intermediate block signalling

c) Interlocking

d) Isolation

16. A fixed Stop Signal of a station controlling the entry of trains into the next block section is called ___________ (a)

a) Last stop signal

b) Home signal

c) shunt signal

d) Gate stop signal

17. ___________ means the permission given from a Block station to a Block station in rear for a train to leave the latter and approach the former (a)

a) Line clear

b) Block Back

c) Block forward

d) Block limit

18. ___________ means a Signalling arrangement in which signals display at any one time any one of the three or more aspects and in which the aspect of every signal is pre-warned by the aspect of the previous signal or signals. (a)

a) MACLS

b) LQ Signal

c) Co-acting signal

d) Shunt Signal

19. ___________ are not signals, but are appliances fitted to and working with points to indicate by day or by night the position in which the points are set (a)

a) Point and trap indicator

b) Facing point lock

c) Hand plunger lock

d) Pad lock

20. The movement of a vehicle or vehicles with or without an engine or of any engine or any other self-propelled vehicle for the purpose of attaching, detaching or transfer or for any other purpose is called ___________ (a)

a) Shunting

b) Gradient

c) Dead end

d) Sand hump

21. ___________ means instructions issued from time to time by the authorized officer in respect to particular cases or special circumstances (a)

a) Special instructions

b) under approved special instructions

c) Temporary order

d) A, B and C

22. The portion of a railway, which is under the control of a Station Master and is situated between the outermost signals of the station or as may be specified by special instructions is called ___________ (a)

a) Station limit

b) Station section

c) Block section

d) Station Boundary

23. ______________ means a special instruction, which is subservient to the General Rule to which it relates and shall not be at variance with any General Rule (b)

a) General rule

b) Subsidiary rule

c) Working time table

d) Special instructions

24. ______________ is the distance travelled by train before coming to a stop by sudden application of brake at one stretch (a)

a) Emergency breaking distance

b) Breaking distance

c) Normal breaking distance

d) Service breaking distance

25. _______________ means an electrical circuit provided to detect the presence of a vehicle on a portion of track, the rails of the track forming part of the circuit (a)

a) Track circuit

b) Selection circuit

c) Indication circuit

d) Internal circuits

26. A fixed signal which is displaying same aspect during day/ night time is ____________ (a)

a) Colour light signal

b) Semaphore signal

c) Detonator

d) Flare signal

27. _______________ means the territory over which an approaching train has to pass before reaching the signal location (c)

a) In advance of signal

b) Shunting

c) In rear of signal

d) Block back

28. ____________ means the territory beyond a signal as seen from the approaching train (a)

a) In advance of signal

b) Shunting

c) In rear of signal

d) Block back

29. The maximum number of trains that can be run on any given section during a calendar day of 24 hour s is called _______________ (a)

a) Section capacity

b) Section limit

c) Station limit

d) Block limit

30. The most restrictive aspect of the signal is ____________ (a)

a) ON Aspect

b) OFF Aspect

c) Dual aspect

d) A, B and C

31. _______ is the distance required to stop the train running at the max permissible speed of the line, at such a rate of deceleration that the passengers do not suffer discomfort (a)

a) NBD

b) EBD

c) SBD

d) BD

Chapter-03 : Signalling Concepts

1. The time interval method of train working is not practicable due to ______________ (a)

   a) Speed of trains vary

   b) Terrain is not same throughout the country

   c) Hauling capacity, Load of train and Brake power is not same for all trains

   d) All

2. It is not possible to control the movement of trains under the "Time interval method", a better method of control called the ______________ is adopted (a)

   a) "Space Interval Method"

   b) Time interval method

   c) Pilot method

   d) shunting

3. A ______________ means to convey a particular pre-determined meaning in non-verbal form to approaching loco pilot (a)

   a) Railway signal

   b) whistle

   c) voice

   d) b and c

Chapter - 4 : Fixed Signals, Aspects & Indications

1. Different types of signals used for train operation are __________ (d)

a) Fixed signals

b) Hand signals

c) Flare/ Detonating signals

d) a, b and c

2. "A signal of fixed location indicating a condition affecting the movement of a train and includes a semaphore arm or disc or fixed light for use by day and a fixed light for use by nightòis __________ (a)

a) Fixed signal

b) Flare signal

c) Hand signal

d) Detonating signal

3. Semaphore signals used on the Railways are in the form of a __________ arm fixed to a vertical post. (d)

a) Rectangular or fish tailed

b) Square type

c) Circle type

d) a and c

4. Fixed signals are generally located on __________ of the track. (d)

a) Left hand side

b) Right hand side

c) Center

d) a and b

5. The semaphore arm of the __________ is square ended, painted Red with White bar parallel to the square end in front and painted white with black bar in rear of signal (a)

a) stop signal

b) Permisive signal

c) Flare signal

d) Detonating signal

6. Semaphore signal, horizontal position of the arm during day time is considered as the __________ aspect and the inclined position is the "OFF" aspect of the signal. (a)

a) ON

b) OFF

c) Marker light

d) a, b and c

7. Semaphore signal inclined position of the arm during day time is considered as the __________ aspect of the signal (b)

a) ON

b) OFF

c) Marker light

d) a, b and c

8. Name of the permissive signal in LQ signalling is __________ (a)

a) Warner signal

b) Outer signal

c) Home sig

d) Starter signal

9. The LQ signal which gives warning about the condition of the stop signal ahead is called __________ (a)

a) Warner signal

b) outer signal

c) Home sig

d) starter signal

10. Warner signal displaying OFF aspect indicates run through condition on ________ (a)

a) main line

b) loop line

c) siding line

d) Branch line

11. The combination of Green Light above a Red Light distinguishes a signal as a Warner Signal (on separate post) at ________ (a)

a) ON Position

b) OFF position

c) Center position

d) a, b and c

12. OFF aspect of warner signal provided on separate post during night time is ________ (d)

a) Caution aspect

b) Attention aspect

c) Red light

d) Fixed green light above proceed aspect

13. ________ marker should be provided on Warner signal in two aspect CLS. (a)

a) P

b) C

c) IB

d) R

14. ________ signal must not be capable of being taken ‘OFF’ for any line other than that over which the highest speed is permitted (i.e. main line) and not until all the relevant signals ahead are taken ‘OFF’ (a)

a) Warner signal

b) Outer signal

c) Shunt signal

d) Flare signal

15. Under certain circumstances a ________ signal is required to be placed on the same post of first stop signal of same station or last stop signal of previous station / LC gat, In such cases the fixed green light above Warner Signal is dispensed with. (a)

a) Warner signal

b) Outer signal

c) Shunt signal

d) Flare signal

16. The semaphore signal arm in the horizontal position in day will convey `ON' aspect indicating ________ to the loco pilot (a)

a) Stop dead

b) Proceed

c) Proceed with care

d) Proceed & be prepared to stop at next Stop Signal

17. The ________ signal arm is fishtailed similar to lower quadrant Warner signal. The front side facing the train is coloured yellow with a black bar and the back side is coloured white with a black bar, both bars are parallel to the end of the arm (a)

a) Distant

b) Outer signal

c) Home signal

d) Flare signal

18. Name of the permisive signals in MACLS are ________ (d)

a) Distant

b) Inner Distant

c) Warner

d) a and c

19. Normal aspect of Distant signal in MACLS is ________ (a)

a) Caution

b) Attention

c) proceed

d) stop dead

20. When Distant signal displaying Proceed aspect, it indicates _______ to the loco pilot (b)

a) Run through on loop line

b) Run through on Main line

c) Stop and start

d) Stop at starter

21. A _____ maker board shall be provided below Distant signal in MACLS (a)

a) P

b) C

c) IB

d) R

22. When DISTANT signal displaying caution aspect, it indicates ______ to the loco pilot (a)

a) Proceed and be prepared to stop at next stop Signal

b) Proceed

c) Proceed & be prepared to pass next Stop Signal at such a speed as prescribed by special instruction

d) Stop dead

23. When DISTANT signal display Attention aspect, it indicates ________ to the loco pilot (c)

a) Proceed and be prepared to stop at next stop Signal

b) Proceed

c) Proceed & be prepared to pass next Stop Signal at such a speed as prescribed by special instruction

d) Stop dead

24. _________ Signal day and night aspects are the same, therefore no confusion to the Loco Pilot (a)

a) MACLS

b) Semaphore signal

c) Semaphore home signal

d) b and c

25. A combination of 4 aspects can be possible in _________ (a)

a) MACLS

b) Semaphore signal

c) Semaphore home signal

d) b and c

26. The _________ Aspect of MACLS is placed at Loco Pilot's eye level. (c)

a) DG

b) HG

c) RG

d) HHG

27. Advantage of CLS are _________ (d)

a) more visibility

b) long range of operation

c) 4 aspects possible

d) a, b and c

28. Where "Distant" and "Inner Distant" signals are provided the Distant shall display _________ aspect. (Ref. 3.07.1 SR -SCR & BD's L.68/W3/SG/5/4 of 5/2/70). (a)

a) "Attention" or "Proceed"

b) Caution

c) only proceed

d) a and c

29. When MACL Stop signal display caution aspect, it indicates ______ to the loco pilot (b)

a) Stop dead

b) Proceed & be prepared to stop next Stop Signal

c) Proceed

d) Proceed & be prepared to pass next Stop Signal

30. When MACL Stop signal display Attention aspect, it indicates ______ to the loco pilot (d)

a) Stop dead

b) Proceed & be prepared to stop next Stop Signal

c) Proceed

d) Proceed & be prepared to pass next Stop Signal

31. When MACL Stop signal display proceed aspect, it indicates ____________ to the loco pilot (c)

a) Stop dead

b) Proceed & be prepared to stop next Stop Signal

c) Proceed

d) Proceed & be prepared to pass next Stop Signal

32. Normal aspect of inner Distant signal is _________ (a)

a) Caution

b) Attention

c) Proceed

d) no light

33. Normal aspect of Distant signal is in double distant territory is _________ (b)

a) Caution

b) Attention

c) Proceed

d) no light

Chapter-5 : Designation of Signals

1. The Signals, which are governing the approach and entry of trains into a station section are __________ (a)
   a) Signal for Reception
   b) Signal for Dispatching
   c) Detonating signal
   d) Misllaneous signals

2. A _______ signal in case of Two aspect signalling can be placed below the first stop signal or below the Last Stop Signal or can be on a post by itself with fixed green light above (a)
   a) Warner
   b) shunt
   c) Flare sig
   d) starter

3. The Purpose of warner signal is to warn the Loco Pilot that he is approaching a stop signal or to warn him about the condition of __________ ahead. (b)
   a) Station
   b) Block section
   c) Station section
   d) Panel

4. In Multiple Aspect Signalling a __________ signal is provided to indicate the Loco Pilot about the condition of the stop signal ahead (b)
   a) Warner
   b) Distant
   c) Shunt
   d) Flare signal

5. If the sectional speed is 120 kmph or above, two "DISTANT" signals shall be provided, these signals are called __________ and __________ respectively (b)
   a) Home & Calling On
   b) Distant & inner Distant
   c) Starter & shunt
   d) Calling ON & Shunt

6. Minimum one permissive and one stop signal are sufficient for trains approaching a station, When stop signal is taken 'OFF' it permits the train to enter the station, this is called __________ signal of the station (c)
   a) Warner
   b) Distant

c) Home

d) Shunt

7. At a station where two stop signals are provided in the approach, the first one shall be called __________ and the next shall be __________ (a)

a) Outer, Home signal

b) Distant, Inner Distant

c) Shunt, Calling ON

d) Repeater, Route signal

8. Where the distance between the Home signal and the Reception lines of the station is far away, one more stop signal may be provided, as One Home signal will not be sufficient to facilitate the reception. So a stop signal provided between Home and the Reception lines shall be called a __________ (b)

a) Starter signal

b) Routing Home signal

c) Flare signal

d) Distant signal

9. Where the departure of trains is controlled by only one stop signal, it is called __________ and is the Last Stop Signal of the station. (a)

a) Starter signal

b) shunt signal

c) intermediate starter sig

d) Flare signal

10. The starter signal referring to any line is placed so as to protect the facing point or fouling mark and shall not be less than __________ mts in advance of the Home signal. (c)

a) 200 mts

b) 600 mts

c) 400 mts

d) 1000 mts

11. Where departure of trains is controlled by more than one Stop Signal, the Outer most starter signal shall be the Last __________ of the station and is called "Advanced Starter". (b)

a) First stop signal

b) Last stop signal

c) Permissive signal

d) Shunt signal

12. . LSS shall be placed at not less than __________ in the case of two aspect Signalling; from the outermost point on single line and outside all point connections. (b)

a) 400 mts

b) 180 mts

c) 120 mts

d) 1000 mts

13. LSS shall be placed at not less than __________ in the case of MACL Signalling, from the outermost point on single line and outside all point connections. (c)

a) 400 mts

b) 180 mts

c) 120 mts

d) 1000 mts

14. For placing of LSS, the minimum distance 120 mts in MACLS shall be reckoned from the __________ signal on double line (b)

a) Shunt signal

b) Starter

c) Home signal

d) Facing point

15. For placing of LSS on single line, the minimum distance 120 mts in MACLS shall be reckoned from the __________ (d)

a) Shunt signal

b) Starter signal

c) Home signal

d) Trailing point / Fouling mark

16. __________ is provided between starter & advanced starter where necessary, and is placed in rear of the point, which it protects (b)

a) Home signal

b) Intermediate starter

c) Flare signal

d) Route signal

17. Name of the FSS in LQ Signalling is __________ (b)

a) Home signal

b) Outer signal

c) Starter signal

d) LSS

18. Name of the FSS in MCL Signalling is __________ (a)

a) Home sig

b) Outer sig

c) Starter signal

d) Last stop signal

19. Name of the main signals for reception of train used in LQ Signalling are ______ (a)

a) Warner/ outer/ home signal

b) Distant / Home signal

c) Distant/ inner Dist / Home signal

d) a, b and c

20. Name of the main signals used for reception of train in MACL Signalling are ______ (c)

a) Warner/ outer/ home signal

b) Distant / Home signal

c) Distant/ inner Dist / Home signal

d) a, b and c

21. In Two aspect Signalling territory, to stop a train at starter signal __________ aspects conveyed to the Loco Pilot of an approaching train by Warner, outer and Home signals (b)

a) R G, RG, RG

b) RG, DG, DG

c) DG, DG, DG

d) RG, DG, RG

22. Distant is a permissive signal. Most restrictive aspect of a distant signal is __________ (b)

a) Proceed

b) Caution

c) Attention

d) No light

23. Distant is a permissive signal. Most restrictive aspect of a distant signal in double distant signaling territory is __________ (c)

a) Proceed

b) Caution

c) Attention

d) No light

24. Advanced Starter is __________ signal of a station (a)

a) Last stop signal

b) First stop signal

c) Permissive signal

d) b and c

25. When distant signal (single) display green aspect then it indicates __________ to the approaching train loco pilot (a)

a) Run through on main line

b) Run through on loop line

c) Run through on siding line

d) b and c

26. In LQ signalling run through on main line is indicated by __________ (c)

a) Home signal

b) Advanced starter

c) Warner

d) Distant signal

Chapter - 6 : Location of Signals

1. A Warner is a permissive signal may be placed either _________ (d)

   a) On a post by itself with a fixed green light by night 1.5 to 2 mts above it

   b) On the post, 1.5 to 2 mts below the arm of the Outer signal

   c) On the post, 1.5 to 2 mts below the Last Stop Signal of a station.

   d) a, b and c

2. A Warner signal may be shall be located on separate post at the distance of not less than _________ in rear of the first stop signal or Gate Stop Signal, unless otherwise it is permitted by approved special instructions. (a)

   a) 1200 mts

   b) 400 mts

   c) 600 mts

   d) 180 mts

3. In Two aspect signalling where Outer signal is provided, it will be the _________ of the station (a)

   a) First stop signal

   b) Last stop signal

   c) Permissive signal

   d) Flare signal

4. In two aspect signalling where Outer signal is provided, it shall be placed not less than _________ in rear of the point up to which the line may be obstructed after the line clear has been given to the station in rear on Double line (b)

   a) 1200 mts

   b) 400 mts

   c) 600 mts

   d) 180 mts

5. In two aspect signalling where Outer signal is provided on single line it shall be placed at not less than _______ in rear of the point up to which the line may be obstructed after the line clear has been given to the station in rear. (c)

   a) 1200 mts

   b) 400 mts

   c) 580 mts

   d) 180 mts

6. Home signal (LQ) shall be located in rear of all connections, and close to the first set of facing points clear of lock bar, or the fouling mark to protect _________ (a)

   a) Adjacent line

   b) Stop Board

   c) Trap point

d) b and c

7. In LQ Signalling the starter signal shall be placed at not less than _________ in advance of the Home Signal (b)

a) 1200 mts

b) 400 mts

c) 600 mts

d) 180 mts

8. An _________ shall be placed in rear of the point or fouling mark to which it protects (a)

a) Intermediate starter signal

b) Shunt signal

c) Flare signal

d) Detonating signal

9. In LQ, an advanced starter shall be placed at outside all connections on the line to which it applies; it shall be placed at not less than _________ from the outermost point on single line. (d)

a) 1200 mts

b) 400 mts

c) 600 mts

d) 180 mts

10. In MAUQ on single line or double line, the distant signal shall be placed at an adequate distance i.e. Normal braking distance in rear of the first stop signal of the station or gate stop signal, which shall not be less _________ (a)

a) 1000 mts

b) 400 mts

c) 100 mts

d) 180 mts

11. In MAUQ signalling, Home signal is the _________ signal of the station (b)

a) LSS

b) First stop signal

c) Permissive signal

d) Flare signal

12. In MAUQ Signalling the Home signal is the first stop signal of the station usually placed at Normal braking distance in rear of next stop signal and __________ in rear of the point up to which the line may be obstructed, after the line clear has been given to the station in rear (d)

a) 1000 mts

b) 400 mts

c) 100 mts

d) 180 mts

13. In MAUQ signalling, to obtain maximum operational facility on single line, the Home signal shall be placed at not less than _______ block overlap + signal overlap (180 mts + 120 mts) in rear of the first facing point if the facility of shunting in the face of an approaching train is desired, so that BO is available between the Home and the opposite Advanced starter/Shunting Limit Board. (a)

a) 300 mts

b) 400 mts

c) 100 mts

d) 180 mts

14. In MAUQ signalling on double line the Home Signal may be located at a distance of _________ in rear of the facing point or Block section Limit Board (if first point in the approach is trailing or no point) (d)

a) 300 mts

b) 400 mts

c) 100 mts

d) 180 mts

15. _________ Signals are usually placed in rear of the facing point or fouling mark of the converging lines such that they should protect the adjacent running line or lines (a)

a) Starter

b) Co-acting signal

c) Shunt signal

d) Repeating signal

16. In MAUQ signalling the advanced starter shall be placed outside all connections on the line to which it applies, and shall not be less than _________ from the outermost point on single line (a)

a) 120 mts

b) 300 mts

c) 400 mts

d) 180 mts

17. In MACL Signalling inner distant signal placed at the distance of _______ from FSS (a)

a) 1000 mts

b) 300 mts

c) 400 mts

d) 180 mts

18. In MACL Signalling distant signal placed at the distance of _________ from FSS (d)

a) 1000 mts

b) 300 mts

c) 400 mts

d) Min 2 km

19. In MACL Signalling distant signal placed at the distance of _________ from inner distant signal (a)

a) Min 1000 mts

b) 300 mts

c) 400 mts

d) Min 2 km

20. When Warner signal provided on separate post in LQ signalling territory _________ board not required to provide (a)

a) Passenger warning

b) stop

c) Goods warning

d) FM

Chapter-7 : Subsidiary Signals, Repeaters, Aspects & Indications

1. The signals, which control the movement of trains within the station section are __________ and _________ signals (d)

a) Calling ï On sig

b) Shunt signal

c) Flare signal

d) a and b

2. The signals, which control the movement of trains within the station section, are to be differentiated and should convey different indication to the Loco Pilot. These signals are (a) Shunt signals and (b) Calling on Signals and are called as _____________ (a)

a) Subsidiary signals

b) Signal for dispatching

c) Co-acting signal

d) b and c

3. Shunt signals authorise movement only at such slow speeds as to be able to stop short of any obstruction and control _____________ movements (a)

a) Shunting

b) Block Back

c) Block Forward

d) b and c

4.Shunt signal can be placed on a separate post by itself close to the ground or can be placed below a stop signal other than the _____________ signal of a station (a)

a) First and last stop signal

b) Last stop signal

c) Permissive signal

d) Flare signal

5. More than one shunt signal may be placed on the same post in which case the top-most signal shall apply to _____________ and the second shunt signal from the top shall apply to the next line from the extreme left and so on (a)

a) Extreme left hand line

b) Extreme right hand line

c) center line

d) b and c

6. Shunt signal shall be either _____________ types (d)

a) Disc type shunt signal

b) Position Light Shunt Signal

c) Under special instructions, a shunt signal may be a miniature arm also

d) a, b and c

7. When a dependent Shunt Signal is placed below a Stop Signal, it shall show ___________ in the "ON" position (a)
   a) no light
   b) yellow light
   c) Green light
   d) b and c

8. At certain stations where uninterrupted shunting operation is required in both the directions (to-and-fro towards the shunting neck or other connected lines), _____________ may be provided for shunting (a)
   a) a Shunting Permitted Indicator (SPI)
   b) Route indicator
   c) Flare signal
   d) b and c

9. _____________ is not a stop signal, but an indicator, which is operated by a ground frame lever and works in conjunction with the stop signal such that either the SPI or the associated Shunt signal can be taken off at a time (a)
   a) a Shunting Permitted Indicator (SPI)
   b) Route indicator
   c) Flare signal
   d) b and c

10. A Shunting Permitted Indicator is of _____________ types (d)
    a) Disc type - a black disc with yellow cross - painted on it.
    b) Light type - Yellow cross light.
    c) Control Disc
    d) a and b

11. A calling on signal is a subsidiary signal and has no ____________ (a)
    a) Independent existence
    b) OFF aspect
    c) C marker
    d) b and c

12. A calling on signal is a subsidiary signal and has no independent existence, It is provided below any stop signal other than ____________ (b)
    a) FSS
    b) LSS
    c) Permissive signal
    d) Detonating signal

13. CALLING 'ON' signal can be a ____________ type or ____________ type in Two aspect or Multiple aspect territory (d)
    a) Miniature semaphore arm
    b) colour light
    c) Route type
    d) a and b

14. A Calling on signals of the colour light type are provided with a __________ board (b)
    - a) R- Marker
    - b) ôCômarker
    - c) P marker
    - d) A- Marker

15. Under approved special instructions, a "calling on" signal may be provided below any other stop signal except ____________ (b)
    - a) First stop signal
    - b) Last Stop Signal
    - c) Flare signal
    - d) Permissive signal

16. In Two aspect Signalling territory, Miniature Semaphore arm type Calling ON Signal ON Aspect is ____________ during night (c)
    - a) Yellow
    - b) Green
    - c) No light
    - d) a and b

17. In Two aspect Signalling territory, Miniature Semaphore type Calling ON Signal OFF Aspect is ____________ during night (a)
    - a) Yellow
    - b) Green
    - c) No light
    - d) a and b

18. In MAUQ Signalling territory, Miniature Semaphore type Calling ON Signal OFF Aspect is ____________ during night (a)
    - a) Yellow
    - b) Green
    - c) No light
    - d) a and b

19. When it is not possible to get the minimum continuous visibility of fixed signal due to a foot-over bridge or road-over bridge, or tunnel or any other partial obstruction, then ____________ signals are required to be provided (b)
    - a) Permissive
    - b) Co-acting
    - c) Calling-On
    - d) shunt signal

20. Co-acting signals are ____________ signals fixed one below the other running signals on the same post (a)
    - a) Duplicate
    - b) Main
    - c) Detonating
    - d) Hand

21. The main signal and _________ signal are rigidly connected and they work together (a)

a) Co-acting

b) Main

c) Detonating

d) Hand

22. Co-acting signals are normally provided in ___________ signalling territory only (a)

a) MAUQ

b) LQ

c) MACL

d) a and c

23. A fixed signal shall be visible to the approaching Loco Pilot however, due to the terrain of the land, a tunnel or bridge coming in between or any other obstruction, then it may not be always possible to get a clear view of the signal from the specified distance. To overcome this ___________ are provided. (a)

a) Repeating signals

b) Co-acting signal

c) Shunt signal

d) Calling-ON Signal

24. The purpose of repeating signal is to inform the Loco Pilot of the approaching train about the aspects displayed by the ___________ which it repeats (a)

a) Fixed signal in advance

b) Fixed signal in rear

c) the fixed signal in centre

d) b and c

25. A repeating signal shall be provided with a ___________ (a)

a) 'R' Marker

b) ôCômarker

c) ôPômarker

d) óAóMarker

26. A repeating signal shall be provided with a marker 'R' and shall be __________ type (d)

a) a square ended semaphore arm

b) a banner type

c) a colour light signal

d) a, b and c

27. Repeating signals are normally required for ___________ signalling (a)

a) Two aspect

b) MAUQ

c) MACL

d) Auto section

28. The ON aspect of the colour light type repeating signal is ___________ (a)
    a) Yellow
    b) Green
    c) No light
    d) Double yellow

29. The OFF aspect of the colour light type repeating signal is ___________ (b)
    a) Yellow
    b) Green
    c) No light
    d) Double yellow

30. Approach stop signals for goods running lines are provided with one ___________ board on semaphore arm (b)
    a) one black ring óRô
    b) one black ring óDô
    c) one black ring óCô
    d) one black ring óDô

31. Approach stop signals leading to ___________ are provided with letter 'D' in black on semaphore arm (a)
    a) Dock platforms
    b) Goods platforms
    c) Siding platforms
    d) Main platforms

32. Colour light Signal not in use or not commissioned are provided with ___________ (a)
    a) Crossbars on signal unit and such signals shall not be lit
    b) Cross mark on signal unit rear and such signals shall not be lit
    c) Cross mark on signal unit both sides and such signals shall not be lit
    d) Crossbars on signal unit and such signals shall not be lit

33. Automatic stop signals are provided with ___________ to distinguish the signal as a full automatic signal. (a)
    a) óAôMarker
    b) C- Marker
    c) R- Marker
    d) P-Marker

34. Semi-automatic stop signals are provided with ___________ to distinguish the signal, when working as an automatic signal and Letter 'A' extinguishes when the signal is working as a manual signal (a)
    a) óAôlit marker
    b) C- Marker
    c) R- Marker
    d) P-Marker

35. Colour light permissive signals on a post by itself are provided with ___________ (d)

a) óAôlit marker

b) C- Marker

c) R- Marker

d) P-Marker

36. Gate stop signals are provided with ___________ board (b)

a) óAôlit marker

b) G- Marker

c) R- Marker

d) P-Marker

37. Intermediate block stop signals are provided with ___________ Marker board (c)

a) óAôlit marker

b) C- Marker

c) IB- Marker

d) P-Marker

38. Colour light calling on signals are provided with ___________ Marker board (b)

a) óAôlit marker

b) C- Marker

c) R- Marker

d) P-Marker

39. Repeating signals of semaphore type are provided ___________ board (c)

a) óAôlit marker

b) C- Marker

c) R- Marker

d) P-Marker

40. Repeating signals in colour light Two aspect signalling territory are provided with ___________ Marker (c)

a) óAôlit marker

b) C- Marker

c) R- Lit Marker

d) P-Marker

41. Gate signals in Automatic Block territory are provided with a 'G' marker and a ___________ against black background. (a)

a) White illuminated letter A

b) C- Marker

c) R- Marker

d) P-Marker

42. Gate stop signal in semi - automatic block territory, when interlocked with points also provided with ___________ (a)

a) White illuminated letters óAôand óAGôagainst black back ground.

b) White illuminated letters óAôand óACôagainst black back ground.

c) White illuminated letters óCôand óAGôagainst black back ground.

d) b and c

43. The ___________ stop signal is provided with IB marker board (d)

a) Starter signal

b) Gate stop signal

c) Distant signal

d) Intermediate block stop signal

44. Certain appliances are provided on the un-interlocked points to indicate to the Loco Pilot and Points man, whether the points are set for the straight line or for the diverging line are called ___________ (a)

a) Point Indicators

b) Trap indicators

c) Markers

d) Name plates

45. Indicators are provided on the trap points to indicate whether they are open or closed. These are called ___________ (b)

a) Point Indicators

b) Trap indicators

c) Markers

d) Name plate

46. All the Point indicators shall show a white target by day or a white light by night in both directions when the points are set for the ___________ (a)

a) Straight line

b) Diversion line

c) No line

d) b and c

47. All the Point indicators shall show no target by day and a green light by night in both directions when the points are set for the ___________ (a)

a) Turnout (Diversion)

b) Straight line

c) No line

d) b and c

48. ___________ Types of Route Indicators to be provided on fixed signal (d)

a) Junction (directional type) b) Multi-lamp type

c) Stencil type d) a, b and c

49. In multiple aspect colour light signalling for speed in excess of 15 kmph ___________ type route Indicator should be used (a)

a) Direction (Junction)

b) Multi lamp

c) Stencil type

d) b and c

50. In multiple aspect colour light signalling for speeds not exceeding 15 kmph ___________ type route indicator to be used (d)

a) Any route Indicator of approved design.

b) Junction

c) Multi-lamp

d) all a, b and c

51. Multi-lamp type route indicator can display maximum ______ no of routes (c)

a) 06

b) 04

c) 99

d) 10

52. Stencil -lamp type route indicator can display maximum _____ no of routes (b)

a) 06

b) 04

c) 99

d) 10

53. Junction -lamp type route indicator can display maximum _____ no of routes (a)

a) 06

b) 04

c) 99

d) 10

54. At certain stations where colour light signalling is provided a Starter Indicator may be provided to repeat the aspect of the starter signal as an aid to the Guard to enable him to know the aspect of the starter signal, It should show no light when starter signal is at 'ON' and show a ___________ when it is at 'OFF' (a)

a) Yellow light

b) Green light

c) White light

d) a, b and c

55. Shunting limit Board is provided on a single line ___________ station where shunting in the face of an approaching train is permitted (a)

a) Class óBô

b) Class óAô

c) Class-D

d) Class-C

56. The shunting limit board shall be placed at such a shunting distance from the outer most facing point as the local conditions may require, and shall not be less than ___________ mts from the opposing first stop signal in Two aspect (b)

a) 200

b) 400

c) 180 mts

d) 120 mts

57. The shunting limit board shall be placed at such a shunting distance from the outer most facing point as the local conditions may require, and shall not be less than ___________ mts from the opposing first stop signal in Multiple Aspect Signalling (c)

a) 200

b) 400

c) 180 mts

d) 120 mts

58. Shunting Limit Board demarcates the ___________ section. (a)

a) Station section and Block

b) Station section and station limit

c) Station section and FM

d) a,b and c

59. Block section limit boards are provided on Double line in multiple aspect signalling territory to distinguish the limit of the ___________ (a)

a) Block section

b) Station

c) Station limit

d) a, b and c

60. ___________ shall be provided at a station on Double line, where there are no facing points or the outer most point at the approaching end is trailing (a)

a) Block section limit board

b) Station section limit board

c) Station limit board

d) Shunting limit board

61. An intermediate siding taking off in the facing direction of running line outside station limits is provided with a ___________ to indicate to the Loco Pilot that a siding is being taken off from the main line (a)

a) 'S' marker

b) W/L marker

c) Passenger warning board

d) Goods warning board

62. BSLB shall be placed at distance not less than ___________ mts from the Home Signal and protects the fouling mark of the trailing point (c)

a) 200

b) 400

c) 180 mts

d) 120 mts

63. Warning boards are provided in rear of the first stop signal of the station for the purpose of giving the Loco Pilot adequate warning that he is approaching a ___________ (a)

a) Stop signal

b) Shunt signal

c) Calling on signal

d) b and c

64. Passenger warning boards shall be located at not less than 1 km in rear of _________ signal (a)

a) First stop

b) Last stop sig

c) Shunt signal

d) Shunting permitting indicator

65. In MACLS when distant signals are provided hence ___________ warning board is not required. (a)

a) Passenger

b) Goods

c) Siding

d) a, b and c

66. Goods warning Board shall be located at not less than ___________ km in rear of the first stop signal (b)

a) 2.4 KM

b) 1.4 KM

c) 1.0 KM

d) 0.5 KM

67. In Double Distant signalling territory ___________ warning board is not required (b)

a) Passenger

b) Goods

c) Siding

d) a, b and c

68. To draw the attention of the Loco Pilot during the night self reflecting sheets/ plastic reflectors of approved design are fixed on ___________ (d)

a) Passenger warning board

b) Goods warning board

c) S-Marker

d) a, b and c

69. Indication boards are provided to give warning to the Loco Pilot about change in type of signalling or of block working, these board will have suitable legend like ________ (d)

a) "Entering token territory"

b) Entering Automatic Block territory

c) "Entering Absolute Block territory"

d) a, b and c

70. Shunting limit board is provided only in ___________ (c)

a) Class 'A' station on single line

b) Class 'B' station on double line

c) Class 'B' station on single line

d) None of the above

71. Calling on signal at ON position display ___________ (a)

a) no light

b) Green

c) Green

d) b and c

72. A trap indicator shows ___________ light when trap is closed. (a)

a) Green

b) White

c) Yellow

d) No light

73. A trap indicator shows ___________ light when trap is open. (a)

a) Red

b) White

c) Yellow

d) No light

74. Semi-automatic stop signals are provided with Aôlit marker to distinguish the signal, when working as an automatic signal and Letter 'A' extinguishes when the signal is working as ___________ signal (a)

a) Automatic

b) Manual stop

c) Repeater signal

d) P-Marker

Chapter-8 : Overlaps

1. The length of track in advance of a stop signal, which should be kept clear before the signal next in rear can be taken 'OFF' is known as the ________ (a)

   a) Signal overlap

   b) Block overlap

   c) Alternative overlap

   d) b and c

2. To take ớOFFôa stop signal, the portion of the track to be kept clear not only up to the next stop signal but also for an adequate distance beyond it. This adequate distance is known as ________ (a)

   a) Signal overlap

   b) Block overlap

   c) Alternative overlap

   d) b and c

3. The overlap provided for last stop signals in Absolute Block territories is greater than for other stop signals and this is referred as ________ (b)

   a) Signal overlap

   b) Block overlap

   c) Alternative overlap

   d) b and c

4. In Two aspect signalling the Block overlaps is ________ (a)

   a) 400 mts

   b) 180 mts

   c) 120 mts

   d) 80 mts

5. In Two aspect signalling the signalling overlaps is ________ (b)

   a) 400 mts

   b) 180 mts

   c) 120 mts

   d) 80 mts

6. In multiple aspect signalling the Block overlaps is ________ (b)

   a) 400 mts

   b) 180 mts

   c) 120 mts

   d) 80 mts

7. In multiple - aspect signalling the length of signal overlaps on Double line is ______ (c)
   a) 400 mts
   b) 180 mts
   c) 120 mts
   d) 80 mts

8. In Auto signalling the length of Block overlaps is ________ (d)
   a) 400 mts
   b) 180 mts
   c) 120 mts
   d) Nil

9. In Auto signalling the length of signal overlaps is ________ (c)
   a) 400 mts
   b) 180 mts
   c) 120 mts
   d) Nil

10. Length of Block overlap in Automatic signalling on Single line is ________ (d)
    a) 400 mts
    b) 180 mts
    c) 120 mts
    d) Nil

11. Block overlap in a 3-aspect Signaling section is ________ mts (a)
    a) 180
    b) 120
    c) 580
    d) 200

Chapter-9 : Breaking Distance

1. ___________ is the distance required to stop the train running at the maximum permissible speed of the line, at such a rate of deceleration that the passengers do not suffer discomfort or alarm. (a)

   a) Service braking distance

   b) Emergency breaking distance

   c) Normal breaking distance

   d) a, b and c

2. ___________ is the distance travelled by train before coming to a stop by sudden application of brake at one stretch (b)

   a) Service braking distance

   b) Emergency breaking distance

   c) Normal breaking distance

   d) a, b and c

3. Train breaking distance is function of ___________ factors (d)

   a) Speed of the train when the brakes are applied.

   b) The available friction between wheel and rail which influences the retardation rate available with complete brake application.

   c) Track gradient when brakes are applied and mass distribution of the track

   d) a, b and c

4. The factors affecting the braking distance are (d)

   a) Speed and Gradient

   b) Brake power and Rollability of wheels

   c) State of rails and curvellence

   d) All a, b, c

Chapter-10 : Sighting Distance & Visibility of Signals

1. _______________ is the distance over which the most restrictive aspect of a signal is visible from the driving compartment of an approaching train under normal conditions of visibility (a)

   a) Sighting Distance

   b) Reaction distance

   c) Breaking distance

   d) b and c

2. ___________ is the distance travelled at permissible speed during time taken by Loco Pilot to react to the aspect of a signal (a)

   a) Reaction Distance

   b) Sighting Distance

   c) Breaking distance

   d) b and c

3. Minimum Visibility of outer signal, Where the sectional speed is 100 kmph or above is ___________ (a)

   a) 1200 mts

   b) 800 mts

   c) 400 mts

   d) 200 mts

4. Minimum Visibility of outer signal, Where the sectional speed is less than 100 kmph is ___________ (b)

   a) 1200 mts

   b) 800 mts

   c) 400 mts

   d) 200 mts

5. Minimum Visibility of outer signal with warner separated is ___________ (c)

   a) 1200 mts

   b) 800 mts

   c) 400 mts

   d) 200 mts

6. Minimum Visibility of warner signal on a separate post is ___________ (c)

   a) 1200 mts

   b) 800 mts

   c) 400 mts

   d) 200 mts

7. Minimum Visibility of Home signal in LQ signalling is ___________ (c)

a) 1200 mts
b) 800 mts
c) 400 mts
d) 200 mts

8. Minimum Visibility of main line sarter signal in LQ signalling is ___________ (c)

a) 1200 mts
b) 800 mts
c) 400 mts
d) 200 mts

9. Minimum Visibility of loop line starter signal in LQ signalling is ___________ (d)

a) 1200 mts
b) 800 mts
c) 400 mts
d) 200 mts

10. Minimum Visibility of Distant signal in MACLS is ___________ (c)

a) 1200 mts
b) 800 mts
c) 400 mts
d) 200 mts

11. Minimum Visibility of inner Distant signal in MACLS is ___________ (d)

a) 1200 mts
b) 800 mts
c) 400 mts
d) 200 mts

12. Minimum Visibility of main line starter signal in MACLS is ___________ (d)

a) 1200 mts
b) 800 mts
c) 400 mts
d) 200 mts

13. Minimum Visibility of Loop line starter signal in MACLS is ___________ (d)

a) 1200 mts
b) 800 mts
c) 400 mts
d) 200 mts

14. Visibility of calling-ON signal in MACLS is ___________ (d)

a) 1200 mts

b) 800 mts

c) 400 mts

d) Visibility is not a criteria

15. If it is not possible to ensure ___________ continuous visibility of any stop signal while approaching it, a suitable speed restriction shall be imposed as per Para 7.7.7 of SEM Part 1, 1988. (b)

a) 1200 mts

b) 200 mts

c) 400 mts

d) Visibility is not a criteria

16. As the ‘ON’ aspect of outer is pre-warned, _________ of outer is not important (a)

a) Sighting distance

b) Breaking distance

c) Reaction distance

d) b and c

Chapter-11 : Isolation

1. If speed is more than __________ then one goods line shall not be isolated from other goods line. (a)

   a) 50 kmph

   b) 100 kmph

   c) 75 kmph

   d) 15 kmph

2. If speed is less than __________, then isolation of a passenger line from other connecting passenger line is not required. (a)

   a) 50 kmph

   b) 100 kmph

   c) 75 kmph

   d) 15 kmph

3. The isolation of goods reception lines from __________ is considered desirable (a)

   a) Sidings

   b) Sand humps

   c) over run lines

   d) b and c

4. A catch siding shall be provided if the gradient steeper than 1:80 in near vicinity of station and falling ___________ (b)

   a) Away from station

   b) Towards station

   c) Towards block section

   d) All a, b & c

5. A slip siding shall be provided if the gradient steeper than 1:100 in near vicinity of station and falling __________ (a)

   a) Away from station

   b) Towards station

   c) Towards block section

   d) All a, b & c

6. Catch siding will protects __________ (b)

   a) Block section

   b) Station section

   c) Station limit

   d) Station

7. Slip siding will protects __________ (a)

   a) Block section b) Station section

   c) Station limit d) Station

8. A line on which train movements at speeds higher than 50 kmph are permitted should be __________ from all connected lines (a)

a) Isolated

b) Pad lock

c) Chain lock

d) b and c

9. __________ are provided for isolation purpose only. (d)

a) Catch sidings

b) Slip sidings

c) Trap point

d) All a, b and c

10. Maximum recommended gradient on Indian Railways for all gauges is __________ (a)

a) 1 : 1200

b) 1 : 260

c) 1 : 400

d) None of these

11. The isolation of goods reception line from one another ____________ (c)

a) Compulsory

b) Not required

c) Desirable

d) None

12. The provision of sand humps, trap points etc in the yard for ____________ purpose (a)

a) Isolation

b) Connection

c) Derailing

d) b and c

Chapter-12 : Simultaneous reception & Dispatch of Trains

1. Taking OFF reception signals for different trains at the same time is called __________ of trains (a)

   a) Simultaneous reception

   b) Simultaneous dispatch

   c) Simultaneous stop

   d) b and c

2. To provide simultaneous reception and dispatching facility on two lines _________ and ________ is required (d)

   a) Overlap

   b) Isolation

   c) Fouling mark

   d) a and b

Chapter-13 : System of Working

1. In Indian Railways, _________ systems of train working are adopted (a)

   a) Six

   b) Four

   c) Two

   d) Seven

2. Where trains are worked on the Absolute Block System no train shall be allowed to leave a Block station unless Line clear has been received from the Block station _________ (a)

   a) In advance

   b) In rear

   c) Station limit

   d) b and c

3. As per essentials of automatic block system the line shall be provided with Continuous _________ (a)

   a) Track Circuits or Axle Counters

   b) Slots

   c) Points

   d) b and c

4. In auto signaling line between two stations may where required be divided into a series of section and each section known as _________ (a)

   a) "Automatic Block Signaling Section".

   b) Block section

   c) Station section

   d) b and c

5. In auto section track Circuits or Axle Counters should controls the aspects of the Signal such that to display HG aspect (4 aspect MACLS) _________ block sections plus overlap must be clear (a)

   a) One

   b) Two

   c) Three

   d) Four

6. In auto section track Circuits or Axle Counters should controls the aspects of the Signal such that to display HHG aspect (4 aspect MACLS) _________ block sections plus overlap must be clear (b)

   a) One

   b) Two

   c) Three

   d) Four

7. In auto section track Circuits or Axle Counters should controls the aspects of the Signal such that to display DG aspect (4 aspect MACLS) _________ block sections plus overlap must be clear (c)

a) One

b) Two

c) Three

d) Four

8. Normal aspect of automatic stop signal is _________ (b)

a) Caution

b) Proceed

c) Attention

d) b and c

9. Adequate distance in Automatic Block System on Double line is _________ (a)

a) 180 mts

b) 400 mts

c) 120 mts

d) 300 mts

10. When an automatic stop signal with óAômarker is at óONô, the Loco Pilot shall bring his train to stop in rear of the signal, after the train has been stopped he shall wait there for _________ by day and _________ by night to pass the signal at ON (a)

a) One minute, two minutes

b) Two minute, One minute

c) One minute, Three minutes

d) One minute, Four minutes

11. Automatic Signals interlocked with Level crossing gates are distinguished by the provision of óGômarker (yellow enameled disc with a letter óGôin black) in addition to _______ (a)

a) Illuminated óAômarker

b) P- marker

c) C- Marker

d) R-Marker

12. Automatic signals interlocked with Point and Level crossing gates are distinguished by the provision of _________ and illuminated `A' marker (a)

a) Illuminated AG

b) P- marker

c) C- Marker

d) R-Marker

13. The normally used block working in Indian Railways is / are (d)

a) Absolute block system

b) Automatic block system

c) Pilot Guard System

d) both a and b

14. Absolute block system is based on _______________ (a)

a) Space interval method

b) Time interval method

15. Complete arrival of the train is checked by _________ (d)

a) Physical verification with LV board

b) Physical verification with Tail lamp

c) Continuous track circuit / Axle counter

d) All the above is correct

16. The automatic stop signal can exhibit green aspect when the line is clear for two automatic block sections plus overlap in the case of _________ (a)

a) 3-aspect signalling

b) 4 aspect signalling

c) 2 Aspect signalling

d) 1 aspect signal

17. The automatic stop signal can exhibit double yellow when the line is clear for two automatic block sections plus overlap in the case of _________ (b)

a) 3-aspect signalling

b) 4 aspect signalling

c) 2 Aspect signalling

d) 1 aspect signal

18. The minimum equipment of fixed signals in automatic block territory on single line _________ (d)

a) a home signal

b) a starter signal

c) an automatic stop signal in rear of the home signal of station

d) All a, b and c

Chapter-14 : Classification of Stations – Comparison of A, B & C

1. In class-A station, Where Line Clear may not be given for a train unless the line on which it is intended to receive the train is clear for at least _________ beyond the Home signal or up to the Starter (a)

a) 400 meters

b) 200 mts

c) 600 mts

d) 1000 mts

2. In Class ‘C’ stations, where Line Clear may not be given for a train unless the whole of the last preceding train has passed complete at least _________ beyond the Home Signal and is continuing journey. This will also include an Intermediate Block Post. (a)

a) 400 meters

b) 200 mts

c) 600 mts

d) 1000 mts

3. _________ stations are stopping places which are situated between two consecutive block stations and do not form the boundary of any block section (a)

a) Non-block stations or Class ‘D’

b) Class- A

c) Class-C

d) Class-B

4. _________ means that portion of the running line between two Block stations on to which no running train may enter until Line Clear has been received from the Block station at the other end of the Block section (a)

a) Block section

b) Station section

c) Station limit

d) Station

5. _________ is that portion of Station limits which can be used for shunting even after granting Line clear to station in rear (b)

a) Block section

b) Station section

c) Station limit

d) Station

6. Station section exists only for ___________ Station (a)

a) Class B

b) Class C

c) Class D

d) Class A

7. Shunting in face of approaching train can be performed at ___________ station (a)

a) Class B

b) Class C

c) Class D

d) Class A

8. Class A stations normally provided in ___________ signaling territory (a)

a) LQ

b) MACLS

c) any where

d) b and c

9. Purpose of Class ï C stations are ___________ (a)

a) To increase section capacity

b) for safety

c) for shunting

d) b and c

10. Minimum signalling equipment required for Multiple aspect Class C station _______ (b)

a) Distant

b) Distant, Home

c) Distant, Home, Starter

d) Warner, Home

11. Shunting in the face of approaching train is not possible in ___________ station (a)

a) class A

b) class B

c) class D

d) class C

12. _____________Station Obstruction is protected by two stop signals, so more safe (a)

a) class A

b) class B

c) class D

d) class C

13. There is no station section in ______________station (d)

a) class A

b) class B

c) class C

d) A and C

Chapter-15 : Standards of Interlocking

1. Where sectional speed is __________ above, two distant signals shall be provided. In such cases, these signals are called ôDISTANTö and ôINNER DISTANTö signal respectively (b)

   a) 100 kmph

   b) 120 kmph

   c) 50 kmph

   d) 75 kmph

2. The Maximum speed allowed in STD II revised interlocking is __________ (a)

   a) 50 kmph

   b) 110 kmph

   c) 140 kmph

   d) 160 kmph

3. The Maximum speed allowed in STD III revised interlocking is __________ (c)

   a) 50 kmph

   b) 110 kmph

   c) 140 kmph

   d) 160 kmph

4. The Maximum speed allowed in STD IV revised interlocking is __________ (d)

   a) 50 kmph

   b) 110 kmph

   c) 140 kmph

   d) 160 kmph

5. __________ of interlocking isolation is required (d)

   a) STD I R

   b) STD II R

   c) STD IV R

   d) a, b and c

6. Double distant signals are mandatory in __________ interlocking (d)

   a) STD I R

   b) STD II R

   c) STD IV R

   d) b and c

7. In STD IV revised interlocking, __________ mode of point operation is required (b)

   a) Mechanically

   b) Electrical

   c) GF Lever

   d) a and c

8. Prevention of SPAD cases desirable in __________ interlocking (c)
   a) STD I R
   b) STD II R
   c) STD IV R
   d) a, b and c

9. Isolation and point lock detection is not required in __________ std of interlocking (d)
   a) STD I R
   b) STD II R
   c) STD IV R
   d) STD 1R

10. The Multi aspect signals are made compulsory in __________ interlocking (a)
    a) Standard III and standard IV
    b) STD I R
    c) STD II R
    d) STD O

11. Starter signals are compulsory in _____ as they are required for high-speed operation (d)
    a) STD II R
    b) STD III R
    c) STD IV R
    d) b and c

12. The maximum speed permitted over the points for straight line fitted with Standard III revised interlocking is __________ (d)
    a) 15 kmph
    b) 50 kmph
    c) 5 kmph
    d) 140 kmph

13. Point Switch detection must be required for __________ interlocking (d)
    a) STD I
    b) STD II
    c) STD III
    d) a, b, and c

14. The first stop signal in a MACLS Std-III R station is __________ signal. (a)
    a) Home b) Outer
    c) Starter d) Warner

15. All running lines should be track circuited in ____________ standard of interlocking (d)
    a) STD I b) STD III
    c) STD IV d) b and c

CHAPTER-16 : Operation of Points

1. The distance at which points may be worked by rodding is stipulated in and must not exceed _____________ where the stroke at the lever tail is 150 mm (a)

   a) 320 mts

   b) 460 mts

   c) 280 mts

   d) 400 mts

2. The distance at which points may be worked by rodding is stipulated in and must not exceed _____________ where the stroke at the lever tail is 200 mm (b)

   a) 320 mts

   b) 460 mts

   c) 280 mts

   d) 400 mts

3. The maximum speed permitted over facing points set for the straight road as per revised version of Standards I of Interlocking is as _____________ (d)

   a) 110 kmph

   b) 140 kmph

   c) 160 kmph

   d) 50 kmph

3. The maximum speed permitted over facing points set for the straight road as per revised version of Standards II of Interlocking is as _____________ (a)

   a) 110 kmph

   b) 140 kmph

   c) 160 kmph

   d) 50 kmph

4. The maximum speed permitted over facing points set for the straight road as per revised version of Standards III of Interlocking is as _____________ (b)

   a) 110 kmph

   b) 140 kmph

   c) 160 kmph

   d) 50 kmph

5. The maximum speed permitted over facing points set for the straight road as per revised version of Standards IV of Interlocking is as _____________ (c)

   a) 110 kmph

   b) 140 kmph

   c) 160 kmph

   d) 50 kmph

Chapter-17 : Inter Cabin Control

1. Inter cabin control is also known as _________ (a)
   a) Slotting
   b) LC Gate
   c) Point
   d) b and c

2. The _________ types of Controls/Slots are in general use in mechanical installations (d)
   (a) The mechanical lever lock worked by key transmitted electrically
   (b) The electric lever lock
   (c) The electric signal reverser post type
   (d) All a, b and c

3. In case of an emergency slotted signals _________ be replaced to ON by any one of the agencies. (b)
   a) may
   b) can
   c) cannot
   d) only c

Chapter-18 : Level Crossing Gates

1. When road traffic crosses the rail traffic at the same level they are known as ________ (a)

   a) Level crossings

   b) Bridges

   c) Cabins

   d) b and c

2. Where lifting barriers are operated mechanically from the nearest cabin, the distance from the cabin to the L.C is limited to ________ (a)

   a) 150 mts.

   b) 220 mts

   c) 400 mts

   d)100 mts

3. The classification of Level crossings is made after conducting the Level crossing census once in ________ by a team consisting of supervisors of Engineering and Traffic department shall do the census of TVU for seven days generally and average per day is taken up (b)

   a) 5 years

   b) 03 years

   c) 04 years

   d) 01 year

4. TVU train vehicle unit = ____________________ (a)

   a) No of trains x No of road vehicles

   b) No of trains x No of trains

   c) No of Road vehicle x No of road vehicles

   d) b and c

5. Special class LC Gate to be provided when TVU more than ________ (a)

   a) 50, 000

   b) 30,000

   c) 25,000

   d) 20,000

6. óAô class LC Gate to be provided when TVU more than ________ and number of road vehicles greater than 1000 (b)

   a) 50, 000

   b) 30,000 ï 50,000

   c) 25,000 ï 20,000

   d) 20,000

7. óBô class LC Gate to be provided when TVU more than ________ and number of road vehicles greater than 1000 (c)

a) 50, 000

b) 30,000 ï 50,000

c) 20,000 ï 30,000

d) 20,000

8. Level crossings should not be located on ________ lines (d)

a) Fouling reception

b) stabling

c) within the signals overlap at stations

d) a, b and c

9. A Special class LC gate provided in station limit should be interlocked with ________ (a)

a) Station signals

b) IB signal

c) Starter repeater indicator

d) b and c

10. A Special class LC gate provided in outside station limit should be interlocked with ___ (a)

a) Station signals

b) IB signal

c) Starter repeater indicator

d) b and c

11. C class (Manned) LC gate provided in outside station limit should be interlocked with ________ in Automatic Block signalling sections (b)

a) Station signals

b) Gate signal

c) Starter repeater indicator

d) b and c

12. All manned Level crossing gates both within and outside station limits falling on suburban section and Automatic Block signalling section shall be ________ irrespective of the classification/Train Vehicle Units of the gates (a)

a) Interlocked

b) Non-interlocked

c) permanent close

d) b and c

13. _____ Locking should be provided for Special class LC Gate signal in suburban section (a)

a) Approach

b) Dead approach

c) conflicting

d) b and c

14. ________ Locking should be provided for C class LC Gate signal in suburban Section (a)

a) Approach

b) Dead approach

c) Conflicting

d) b and c

15. In case of two aspect territories, a stop signal at ________ from the gate with a `G' marker and a warning board at 1 km in rear of the gate signal shall be provided (a)

a) 400 mts

b) 600 mts

c) 200 mts

d) 1000 mts

16. In case of multiple aspect territory, both colour light signalling and upper quadrant, a stop signal at ________ from the gate with a `G' marker and a distant signal at 1 km in rear of the stop signal shall be provided (a)

a) 180 mts

b) 400 mts

c) 200 mts

d) 120 mts

17. The Last Stop Signal-cum distant signal of L.C gate will display ________ aspect when the Line clear has not been obtained from the station in advance (a)

a) Red.

b) yellow

c) Green

d) White

18. The Last Stop Signal-cum distant signal of L.C gate will display ________ aspect when the Line clear has been obtained and the L.C gate is open to road traffic (b)

a) Red.

b) yellow

c) Green

d) White

19. The Last Stop Signal-cum distant signal of L.C gate will display ________ aspect When the Line clear has been obtained and the L.C gate is closed to road traffic (c)

a) Red.

b) yellow

c) Green

d) White

20. The Intermediate Block Signal (IB) - cum distant signal will display ________ aspect whenever the Block section ahead is not clear (a)

a) Red.

b) yellow

c) Green

d) White

21. The intermediate Block Signal (IB) - cum distant signal will display ________ aspect when the train is required to stop at the Home signal of station ahead (b)

a) Red.

b) yellow

c) Green

d) White

22. The intermediate Block Signal (IB) - cum distant signal will display ________ aspect when the train is required to stop at the Main line or Loop line Starter or is required to pass through via Loop line (d)

a) Red.

b) yellow

c) Green

d) Double yellow

23. The intermediate Block Signal (IB) - cum distant signal will display ________ When Block section ahead is clear train is to pass run through the station via Main line (c)

a) Red.

b) yellow

c) Green

d) Double yellow

24. ________ section all Level crossing gates shall be interlocked irrespective of the Classification (a)

a) Auto signalling

b) Block section

c) Sidings

d) b and c

25. ________ Section all Level crossings shall be provided with warning Bells operated by the approaching trains. (a)

a) Auto signalling

b) Block section

c) Sidings

d) b and c

26. A gate cum distant signal will have ________ number of aspects. (d)

 a) One

 b) Two

 c) Three

 d) Four

27. In UQ signaling a gate signal shall be located at minimum ______ mts from the gate. (b)

 a) 400

 b) 180

 c) 120

 d) 580

28. A gate stop signal will have ________ number of aspects. (a)

 a) Two

 b) Three

 c) Four

 d) One

29. If LC Gate is interlocked with advanced starter then ________ maker shall be provided below Advanced starter. (d)

 a) G marker

 b) AG marker

 c) A & AG marker

 d) NO marker

30. All Level crossing gates irrespective of classification, on Automatic sections Single/Double lines shall be ______ and provided with warning bells operated by approaching train (a)

 a) Interlocked

 b) Non- interlocked

 c) Isolated

 d) b and c

31. In case of multiple aspect territory, both colour light signalling and upper quadrant, a stop signal a 180 mts from the gate with a `G' marker and a distant signal at ________ in rear of the stop signal shall be provided (d)

 a) 180 mts

 b) 400 mts

 c) 200 mts

 d) 1000 mts

CHAPTER-19 : Section Capacity

1. The maximum number of trains that can be dealt on a given section of Railway during the period of twenty four hours is called ____________ (a)

   a) Section Capacity

   b) Station capacity

   c) Signal capacity

   d) b and c

Chapter-20 : Principles of Signal Engineering

1. Each and every apparatus and circuit employed in a signalling system shall be so designed that a failure is occurring in any of all the component parts of the system results in the signal or signals controlled by the system displaying their __________ (a)

   a) Most restrictive aspects

   b) OFF aspect

   c) Malty aspects

   d) a and b

2. Reliability, simplicity and expansive capabilities shall be important considerations in the design of __________ and signaling systems. (a)

   a) Circuits

   b) Block diagram

   c) All diagrams

   d) b and c

3. The number of fixed signals provided shall be the __________ for each route (a)

   a) Minimum

   b) Maximum

   c) Optimum

   d) b and c

Objective Questions

Chapter - 1 : Introduction to Interlocking

1. In a station, different signalling gears are to be operated in a logical sequence for receiving or dispatching of trains for ensuring their ----------------- (a)

   a) Safe running

   b) Un safe running

   c) late running

   d) b and c

2. Signals, Points, Lock bars and interlocked level crossing gates etc existing in a station yard are referred as _________ (a)

   a) Functions

   b) Interlocking

   c) Non-interlocking

   d) a, b and c

3. An arrangement of signals, points and other appliances, operated from a lever frame or panel, so interconnected by Mechanical locking or Electrical locking or both that their operation must take place in proper sequence to ensure safetyòis _________ (b)

   a) Functions

   b) Interlocking

   c) Non-interlocking

   d) a, b and c

4. In mechanical signaling functions like signals, points and lock bars operated by _____ (a)

   a) Levers

   b) Plunger

   c) Tappet

   d) Down rod

5. If the levers operating the functions are located in the same lever frame, then the interlocking between the levers can be achieved _________ (a)

   a) Mechanically

   b) Electrically

   c) Electro- magnet coil

   d) b and c

6. The interlocking between a signal operated from cabin 'A' and the points in the overlap operated from cabin 'B' is achieved electrically through __________ (b)

   a) Plungers

   b) Slot

   c) Pad locks

   d) lock bar

7. This interlocking relationship between lever 1 and 2, can be expressed as 1 locks 2 and symbolically expressed as __________ (a)

   a) 1 x 2

   b) 2 % 1

   c) 1 / 2

   d) b and c

8. This interlocking relationship is expressed as 1 locks 2 symbolically expressed as (1 x 2), lever 1 is called __________ and lever 2 is called __________ (a)

   a) locking lever, locked lever

   b) locked lever, locking lever

   c) normal lever , Reverse lever

   d) b and c

9. This interlocking relationship between lever 1 and 2, can be expressed as 2 is Released by 1 and symbolically expressed as __________ (b)

   a) 2 x 1

   b) 2 ÷ 1

   c) 1 locks 2 both ways

   d) a and c

Chapter-2 : Preparation of Signalling Plan – The size of lever frame

1. Engineering scale plan is issued by ___________ (a)

   a) Engg. Dept

   b) S & T Dept

   c) Operating Dept

   d) Commercial Dept

2. A signalling interlocking (SIP) plan is prepared based on ___________ (a)

   a) ESP

   b) Working time table

   c) Special note

   d) SWR

3. A signalling plan is providing ___________ information (d)

   a) Type of signalling

   b) The class of station

   c) The standard of interlocking

   d) a, b, & c

4. A single end point with rodding transmission can be operated up to a distance of ___________ Meters (b)

   a) 275 mts

   b) 460 mts

   c) 600 mts

   d) 1000 mts

5. Cross over point with rodding transmission can be operated up to a distance of ___________ Meters only (a)

   a) 275 mts

   b) 460 mts

   c) 600 mts

   d) 1000 mts

6. The locking tray of a "Catch Handle" type lever frame will be in combination or multiples of ___________ (a)

   a) 8 and 10

   b) 5 and 7

   c) 4 and 8

   d) 12

7. In "Direct locking" type, the lever frame will be in a combination or multiples of ___________ levers per bay (a)

   a) 5 and 7 b) 8 and 10

   c) 4 and 8 d) 12

8. All the levers in the lever frame are serially numbered from ___________ with respect to the leverman facing the lever frame (a)

a) from left hand to right hand

b) Right hand to left hand

c) Center

d) b and c

9. ________ Numbering schemes may be adopted for numbering of levers in lever frame (d)

a) Geographical method

b) Group cum geographical method

c) Functional method

d) only a and b

10. The simplest method of numbering would be ___________ method in which the functions operated from a particular cabin are numbered serially depending upon the geographical location in which they are situated (a)

a) Geographical

b) Group cum geographical method

c) Square sheet method

d) b and c

11. The disadvantage of geographical method numbering scheme is ___________ (b)

a) Risky operation

b) cabin man have to move to and fro in the cabin for the various levers operation

c) Not feasible for big yards

d) a and c

12. The difficulty in lever operation experienced in geographical method of numbering can be overcome by numbering the functions in ___________ method (a)

a) "Group-cum geographical"

b) geographical

c) Square sheet method

d) a, b and c

13. In "Group-cum geographical" method the functions in the yard are divided into three distinct groups & the numbering is done ______ and within the same group geographically (a)

a) group-wise

b) liver wise

c) lever position wise

d) b and c

14. In group-cum-geographical method of numbering all functions in a yard operated/controlled by this cabin are divided into ___________ groups (c)

a) Two

b) four

c) three

d) five

15. In group-cum-geographical method of numbering the signals/slots to the extreme left of the cabin man as he faces the lever frame is identified and all signals/slots, which govern movement in the same direction, are grouped together in Group I ( )

    a) Group 1

    b) Group 2

    c) Group 3

    d) Group 5

16. In group-cum-geographical method of numbering all the level crossings, points and Lock bars operated from the cabin are grouped together in ___________ (b)

    a) Group 1

    b) Group 2

    c) Group 3

    d) Group 4

17. In group-cum-geographical method of numbering the signals/slots leading to the direction opposite to that of signals in Group 1 are grouped together in ___________ (a)

    a) Group 3

    b) Group 2

    c) Group 1

    d) Group 4

18. Spare levers are provided in the lever frame for the purpose of ___________ (a)

    a) Future expansion of yard

    b) Easy operation of levers

    c) As general practice

    d) b and c

Chapter-3 : Essentials of Interlocking

1. It shall not be possible to take ' OFF' at the same time, any two fixed signals which can, lead to any______________ (a)
   a) conflicting movements
   b) Parallel movements
   c) Forward movement
   d) b and c

2. After the signal has been taken ' OFF ' it shall not be possible to move any points or lock on the route, including overlap and isolation, nor is to release any interlocked gates until the signal replaced to the__________________ (a)
   a) óON' position
   b) OFF position
   c) Center position
   d) b and c

3. It shall not be possible to take 'OFF' a running signal, unless __________ (d)
   a) all points including isolation are correctly set,
   b) all facing points are locked
   c) all interlocked level crossing are closed and locked against public road for the line on which the train will travel including the overlap
   d) a, b and c

4. The distance between the signal and the first facing point has to be limited and Para 7.83 of Signal Engineering Manual Part-I specifies that this distance should not be more than _________ (b)
   a) 120 mts
   b) 180 mts
   c) 400 mts
   d) 600 mts

5. The distance between successive facing points has to be limited and Para 7.83 of SEM Part-I specifies that this distance should not be more than ________ mts (b)
   a) 120 mts
   b) 180 mts
   c) 400 mts
   d) 600 mts

6. If the distance becomes more than 180 Meters then an additional lock bar called _________ has to be introduced between the signal and the first facing point or between two successive facing points (d)
   a) Lock Retaining Bar
   b) Holding Bar
   c) Fouling mark
   d) a and b

7. Successive _________ locking is one of the arrangements of route holding (a)

a) Lock Bar

b) Points

c) Slots

d) b and c

8. Once the signal has been taken OFF, it must not be possible to alter the point unless the ________ has first been put back to the 'ON' position (b)

a) Point

b) Signal

c) Lock Bar

d) LC Gate

9. The Interlocking between the signal and the facing points and the Lock bars, results the points can not be unlocked and altered unless the _________ (a)

a) Signal lever is normalised

b) Point lever is normalised

c) Lock lever is normalised

d) Slot lever is normalised

10. The purpose of the lock bar on the facing point is such that the point cannot be unlocked when the train is passing over the _________ (a)

a) Lock bars.

b) Trailing point

c) LC Gate

d) b and c

11. Signal locks normal the ___________ signal (a)

a) Conflicting

b) Flare signal

c) Detonating

d) b and c

12. Signal is released by the _____________ (b)

a) Signal in rear

b) Signal in advance

c) Trailing lock bar

d) b and c

13. Signal releases _____________ (a)

a) Signal in rear

b) Signal in advance

c) Trailing lock bar

d) b and c

14. Signal locks normal the point if required in ___________ (a)

    a) Normal

    b) Reverse

    c) center

    d) b and c

15. Signal is released by the _________ if required in reverse (a)

    a) Point

    b) Slot

    c) Signal

    d) b and c

16. Signal locks both ways the point for _________ purpose (a)

    a) Route holding

    b) Route release

    c) Locking

    d) b and c

17. Signal is released by first _________ Lock bar (b)

    a) Trailing

    b) Facing

    c) Holding Bar

    d) a and c

18. Signal locks normal its _________ (b)

    a) Facing lock bar

    b) Trailing Lock bar

    c) Holding Bar

    d) a and c

19. Signal is _____________ by L.C. Gate in the route (a)

    a) Released

    b) Locks normal

    c) Locks both ways

    d) b and c

20. Signal releases _________ for the same direction (a)

    a) Slot in rear

    b) L.C Gate

    c) Point

    d) Lock bar

21. Signal locks normal, the _________ for the opposite direction (a)

a) Slot

b) L.C Gate

c) Point

d) Lock bar

22. Point locks normal the _________ if required in normal (a)

a) Signal

b) Point

c) Slot

d) LC Gate

23. Point releases the ________ if required in reverse (a)

a) Signal

b) Point

c) Slot

d) LC Gate

24. Point locks normal the _________ (a)

a) Conflicting points

b) Signal

c) Slot

d) LC Gate

25. Point is released by _________ point in the route (a)

a) More important

b) Less important

c) Centre

d) b and c

26. Point releases _________ point in the route (b)

a) More important

b) Less important

c) Centre

d) b and c

27. Point releases _________ in case of trap point (   )

a) Lock Bar

b) Signal

c) Slot

d) LC Gate

28. Point is released by _________ in case of fouling protection (a)
    a) Lock Bar
    b) Signal
    c) Slot
    d) LC Gate

29. Point is released by _________in both ways in case of Slip siding /Catch siding (a)
    a) Lock Bar
    b) Signal
    c) Slot
    d) LC Gate

30. Point is released by _________ in the route in case of siding point (d)
    a) Lock Bar
    b) Signal
    c) Slot
    d) LC Gate

31. Point locks normal the _________ if required in normal (c)
    a) Lock Bar
    b) Signal
    c) Slot
    d) LC Gate

32. Point locks normal the _________ in case of isolation (c)
    a) Lock Bar
    b) Signal
    c) Slot
    d) LC Gate

33. First facing lock bar releases the _________ (b)
    a) Lock Bar
    b) Signal
    c) Slot
    d) LC Gate

34. Trailing lock bar locks normal the _________ (b)
    a) Lock Bar
    b) Signal
    c) Slot
    d) LC Gate

35. Lock bar releases in both ways in case of Slip siding /Catch siding (b)
    a) Lock Bar
    b) Point
    c) Slot
    d) LC Gate

36. Lock bar locks its own _________ both ways (b)
    a) Lock Bar
    b) Point
    c) Slot
    d) LC Gate

37. Lock bar is released by _________ in advance in the route (a)
    a) Lock Bar
    b) Point
    c) Slot
    d) LC Gate

38. Lock bar releases ___________________ in rear in the route (a)
    a) Lock Bar
    b) Point
    c) Slot
    d) LC Gate

39. Lock bar locks normal the opposite _________ in the route (a)
    a) Lock Bar
    b) Point
    c) Slot
    d) LC Gate

40. First facing lock bar releases the _________ (c)
    a) Lock Bar
    b) Point
    c) Slot
    d) LC Gate

41. Trailing lock bar locks normal the _________ (c)
    a) Lock Bar
    b) Point
    c) Slot
    d) LC Gate

42. LC Gate releases _________ in the route (c)

a) Lock Bar

b) Point

c) Signal

d) LC Gate

43. LC Gate releases the _________ (b)

a) Lock Bar

b) Siding Point

c) Signal

d) LC Gate

44. LC Gate r releases _________ in the route (c)

a) Lock Bar

b) Point

c) Slot

d) LC Gate

45. LC Gate releases _________ conditionally if separate overlap is available (c)

a) Lock Bar

b) Point

c) Slot

d) LC Gate

46. Slot released by _________ in advance for the same direction (b)

a) Lock Bar

b) Signal

c) Slot

d) LC Gate

47 Slot locks normal the _________ for the opposite direction (b)

a) Lock Bar

b) Signal

c) Slot

d) LC Gate

48. Slot locks normal the _________ if required in normal (c)

a) Lock Bar

b) Signal

c) Point

d) LC Gate

49. Slot locks normal the _________ in case of isolation (c)
    a) Lock Bar
    b) Signal
    c) Point
    d) LC Gate

50. Slot is released by the First facing _________ (a)
    a) Lock Bar
    b) Signal
    c) Point
    d) LC Gate

51. Slot locks normal the Trailing _________ (a)
    a) Lock Bar
    b) Signal
    c) Point
    d) LC Gate

52. Slot is released by _________ in the route (d)
    a) Lock Bar
    b) Signal
    c) Point
    d) LC Gate

53. Slot is released by ______ conditionally if separate overlap is available in the route (d)
    a) Lock Bar
    b) Signal
    c) Point
    d) LC Gate

54. Slot is released by _________ in advance of the route (c)
    a) Lock Bar
    b) Signal
    c) Slot
    d) LC Gate

55. Slot releases _________ in rear of the route (c)
    a) Lock Bar
    b) Signal
    c) Slot
    d) LC Gate

56. Slot locks normal the conflicting _________ (c)
   a) Lock Bar
   b) Signal
   c) Slot
   d) LC Gate

57. Warner is released by _________ (a)
   a) Outer
   b) Loop line Home
   c) Advance starter
   d) Calling ON

58. Warner is released by _________ (a)
   a) Main line Home
   b) Loop line Home
   c) Advance starter
   d) Calling ON

59. Outer is released by any one of ____________ ( )
   a) Home signal
   b) Loop line Home
   c) Advance starter
   d) Calling ON

60. Main line Home locks loop line _______ having separate overlap (c)
   a) Lock Bar
   b) Signal
   c) Slot
   d) LC Gate

61. _________ signal locks shunt signal below it (a)
   a) Running
   b) Flare
   c) Slot
   d) b and c

62. A slot having separate overlap must lock all other _________ (c)
   a) Lock Bar
   b) Signal
   c) Slot
   d) LC Gate

63. Lock bar releases _________ in case of fouling protection (c)

    a) Lock Bar

    b) Point

    c) Slot

    d) LC Gate

64. Lock bar is released by point in case of _________ (b)

    a) Lock Bar

    b) Trap point

    c) Slot

    d) LC Gate

Chapter - 4 : Locking Tables – Single wire

1. For preparation of Locking Table ____________ two methods can be adopted (d)

   a) Square sheet method

   b) Route method

   c) Route holding method

   d) a and b

2. Preparation of Locking in Square Sheet Method, disadvantage are ____________ (d)

   a) Laboriousness

   b) time consuming

   c) More space consuming

   d) All a, b and c

3. Preparation of Locking Tables in ROUTE METHOD is more superior than _________ (a)

   a) Square sheet method

   b) Direct locking

   c) indirect locking method

   d) b and c

4. The locking between the conflicting functions pertaining to different routes is redundant through the ____________ (a)

   a) Point levers

   b) lock bar lever

   c) Gate lever

   d) slot lever

5. The locking between the conflicting functions, which are directly on the same road, is achieved by the ____________ (b)

   a) Point levers

   b) lock bar lever

   c) Gate lever

   d) slot lever

6. Electro-Mechanical yards as the function of route holding and track locking will be done by ____________ (a)

   a) Track circuits

   b) internal circuits

   c) indication circuits

   d) b and c

Chapter - 6 : Locking Diagram

1. The interlocking relationships between various functions can be achieved either electrically or mechanically, for achieving it mechanically an interlocking _________ is used (a)

   a) Lever frame

   b) Relay

   c) Power supply

   d) b and c

2. A notch cut on the tappet exactly in the channel and available for the lock when it's lever is normal, is called the _________ (a)

   a) Normal notch

   b) Reverse notch

   c) Fouling notch

   d) b and c

3. A notch cut on a tappet at such a place that it comes in the channel and available for the lock when its lever is reversed, is called the _________ (b)

   a) Normal notch

   b) Reverse notch

   c) Fouling notch

   d) b and c

4. When any lever is reversed and due to the action of this lever if another lever is getting locked in the normal position is termed as _________ (a)

   a) Normal locking

   b) Back locking

   c) Fouling notch

   d) b and c

5. Due to the action of any lever if another lever is getting locked in the reverse position or a lever can not be reversed unless another lever is first reversed and when this lever is reversed the other gets locked in the reverse position is termed as _________ (a)

   a) released by or back lock

   b) normal locking

   c) Fouling notch

   d) b and c

6. "released by" or "back lock" is achieved by providing ___________ on the tappet of another lever (b)

   a) Normal notch

   b) Reverse notch

   c) Fouling notch

   d) b and c

7. When action of any lever has to lock another lever in what so ever position it is prior to the operation of this lever, is termed as _________ (d)

a) Released by or back lock

b) Normal locking

c) Fouling notch

d) Locks both ways

8. A lever when operated from normal to reverse position actuates the lock pieces and results locking on other lever/s are generally termed as _________ (a)

a) Locking Lever

b) Locked lever

c) Fouling notch

d) b and c

9. A lever which is getting locked by lever when operated from normal to reverse position is called _________ (b)

a) "Locking Lever"

b) Locked lever

c) Fouling notch

d) b and c

10. Locking lever should always have a _________ (a)

a) Normal notch

b) Reverse notch

c) Fouling notch

d) b and c

11. On locking lever Lock should be _________ (a)

a) Inside the notch

b) Outside the notch

c) on lever

d) b and c

12. Locked Lever will have _________ for locks normal condition of lever (a)

a) Normal notch

b) reverse notch

c) Fouling notch

d) b and c

13. Locked Lever will have _________ for released by condition of lever (b)

a) Normal notch

b) reverse notch

c) Fouling notch

d) b and c

14. The maximum number of bridle bars that can be used at a given place in the channel shall not exceed to _________ (a)

a) 04

b) 05

c) 06

d) 02

15. The swinger, which is available in the channel when its lever is normal, is called as _________ (a)

a) "Normal Swinger"

b) Reverse swinger

c) Top piece

d) b and c

16. The swinger which comes in the channel when its lever is reversed is called as _____(a)

a) "Reverse Swinger

b) Normal swinger

c) Top piece

d) b and c

17. The number of swingers required to achieve the Locking is equal to the number of condition ___________ (a)

a) Imposing levers

b) levers normal

c) lever position center

d) b and c

18. When the swinger is on locking lever, it is only a _____ and both the locks are inside (b)

a) Normal swinger

b) reverse swinger

c) Dummy Dog

d) a and c

19. Inherently every special locking is having ___________ locking relations (where n = No. of levers in the group). (b)

a) n (n-2)

b) n (n-1)

c) n (n-3)

d) n (n-5)

20. Grouping of locking is necessary for ___________ the locking materials, channels and workmanship (a)

a) Economising

b) More

c) Swingers

d) b and c

21. The swinger/ the top piece should not be provided in the ___________ channels (a)

   a) First and the last

   b) middle

   c) Any channel

   d) b and c

22. ___________ in the second channel and normal swinger in the last but one channel should not be provided (b)

   a) Normal swinger

   b) Reverse swinger

   c) cut - piece

   d) a and c

23. Swingers/top pieces should not be provided in the ___________ on the same tappet (a)

   a) Adjacent channel

   b) Adjacent lever

   c) Top piece

   d) b and c

24. The number of bridle bars at any given place of a channel should not exceed _____ (b)

   a) Two

   b) Four

   c) One

   d) Five

25. An unconnected length of a bridle bar to a distance of more than 10 levers to be supported by a ___________ (a)

   a) Dummy lock.

   b) Cut-Piece

   c) Rivet

   d) b and c

26. Pusher and bar butts should not be used in the ___________ (a)

   a) Lever frame

   b) Lever lock

   c) Lever tail

   d) b and c

27. Use of top pieces shall be the last alternative for avoiding the ___________ (a)

   a) Fouling notches.

   b) Normal notch

   c) Reverse notch

   d) b and c

28. Plan both ways locking to be provided in first and last channels to avoid _________ (a)

a) Fouling of notches

b) Normal notch

c) Reverse notch

d) b and c

29. The converse locking of locks normal is __________ (a)

a) Same

b) different

c) conditional

d) b and c

30. A swinger is required for a ___________ (a)

a) Conditional (special) locking

b) Normal locking

c) Converse locking

d) b and c

Chapter - 7 : Testing of Locking

1. Interlocking lever frames must be tested at least ___________ (a)

   a) Once in a year or earlier

   b) once in a two year

   c) once in a three year

   d) once in 5years

2. __________ are two methods of testing the lockings (Para 13.15SEM part-2) (d)

   a) Against the interlocking table,

   b) Against the Signalling plan

   c) Against Lever frame

   d) a and b

3. Overhauling of lever frames carried out once in ___________ (c)

   a) Once in a year or earlier

   b) once in a two year

   c) once in a three year

   d) once in 5 years

Objective questions

Chapter - 1 : Lever frames

1. Single Wire lever frame classified as (a)
   (a) 3 types
   (b) 2 types
   (c) 4 types
   (d) 5 types

2. Length of the direct lever (SA 530) is (b)
   (a) 1455 mm
   (b) 2275 mm
   (c) 1980 mm
   (d) 2512 mm

3. Pitch of the Direct lever is (b)
   (a) 100 mm
   (b) 125 mm
   (c) 150 mm
   (d) 175 mm

4. Angular through of the Direct lever is (c)
   (a) 33 deg.
   (b) 52 deg.
   (c) 27 deg.
   (d) 42 deg.

5. Stroke of the Tappet in Direct lever is (a)
   (a) 346 mm
   (b) 277 mm
   (c) 65 mm
   (d) 178 mm

6. Pitch of the Channel in Direct Lever (SA-530) frame (a)
   (a) 110 mm
   (b) 70 mm
   (c) 63.3 mm
   (d) 84 mm

7. Width of the Channel in Direct Lever (SA-530) frame (b)
   (a) 55 mm
   (b) 70 mm

(c) 40 mm

(d) 65 mm

8. Max. No. of interlocking Bar in Direct Lever (SA-530) frame (a)

(a) 3 Top and 3 Bottom

(b) 2 Top and 3 Bottom

(c) 2 Top and 2 Bottom

(d) 3 Top and 2 Bottom

9. Max. No. of channels in Direct Lever (SA-530) frame (a)

(a) 5 & 8

(b) no limit

(c) 2 & 4

(d) 6

10. Bay in Direct Lever (SA-530) frame (c)

(a) 8 or 10

(b) 1, 2, 3, 4, 5, 6

(c) 5 or 7

(d) 12

11. Length of the Catch handle (SA 1101) is (c)

(a) 1455 mm

(b) 2275 mm

(c) 1980 mm

(d) 1645 mm

12. Pitch of the Catch handle (SA 1101) (c)

(a) 150 mm

(b) 125 mm

(c) 100 mm

(d) 210 mm

13. Angular Through of the Catch handle (SA 1101) is (a)

(a) 33 deg.

(b) 52 deg.

(c) 27 deg.

(d) 31 deg.

14. Stroke of the Tappet in Catch handle (SA 1101) is (c)

(a) 346 mm

(b) 277 mm

(c) 65 mm

(d) 156 mm

15. Pitch of the Channel in Catch handle (SA 1101) frame (c)
    (a) 110 mm
    (b) 70 mm
    (c) 55 mm
    (d) 65 mm

16. Width of the Channel in Catch handle (SA 1101) frame (c)
    (a) 55 mm
    (b) 70 mm
    (c) 40 mm
    (d) 65 mm

17. Max. No. of interlocking Bar in Catch handle (SA 1101) frame (c)
    (a) 3 Top and 3 Bottom
    (b) 2 Top and 3 Bottom
    (c) 2 Top and 2 Bottom
    (d) 3 Top and 2 Bottom

18. Max. No. of channels in Catch handle (SA 1101) frame (c)
    (a) 5 & 8
    (b) 2 & 4
    (c) no limit
    (d) 10

19. Bay in Catch handle (SA 1101) frame ( )
    (a) 8 or 10
    (b) 1, 2, 3, 4, 5, 6
    (c) 5 or 7
    (d) 6

20. Length of the Ground lever (a)
    (a) 1455 mm
    (b) 2275 mm
    (c) 1980 mm
    (d) 1755 mm

21. Pitch of the Ground lever (c)
    (a) 150 mm
    (b) 125 mm
    (c) 100 mm
    (d) 140 mm

22. Angular Through of the Ground lever (b)
    - (a) 33 deg.
    - (b) 52 deg.
    - (c) 27 deg.
    - (d) 65 deg.

23. Stroke of the Tappet in Ground lever (b)
    - (a) 346 mm
    - (b) 277 mm
    - (c) 65 mm
    - (d) 156 mm

24. Pitch of the Channel in Ground lever frame (b)
    - (a) 110 mm
    - (b) 63.3 mm
    - (c) 55 mm
    - (d) 85 mm

25. Width of the Channel in Ground lever frame (a)
    - (a) 55 mm
    - (b) 70 mm
    - (c) 40 mm
    - (d) 58 mm

Chapter - 2 : Cranks

1. First crank used in a rod transmission (c)

   (a) Accommodating Crank

   (b) Horizontal Crank

(c) Vertical Crank

(d) Relief crank

2. Adjustable sleeve in Adjustable Crank can be shifted in steps of (b)

(a) 10 mm

(b) 12 mm

(c) 15 mm

(d) 8 mm

3. Last crank used in rod transmission (b)

(a) Accommodating crank

(b) Adjustable crank

(c) Vertical crank

(d) Relief crank

4. To adjust the required stroke __________ crank is used (b)

(a) Accommodating

(b) Adjustable

(c) Vertical

(d) Relief

5. To divert the rod run up to 20^0 ____________ crank is used (d)

(a) Accommodating

(b) Adjustable

(c) Vertical

(d) Relief

6. To divert the rod run up to ______ Relief crank is used (a)

(a) 20^0

(b) 30^0

(c) 40^0

(d) 25^0

7. One of the arm is CURVED in ____________ crank (a)

(a) Accommodating

(b) Adjustable

(c) Vertical

(d) Relief

8. ___________ crank used in Outside lead out (a)
   (a) Accommodating
   (b) Adjustable
   (c) Vertical
   (d) Relief

9. ___________ crank used in Inside lead out (c)
   (a) Accommodating
   (b) Adjustable
   (c) Vertical
   (d) Relief

10. ___________ crank is fixed at the base of signal (b)
   (a) Accommodating
   (b) Signal
   (c) Vertical
   (d) Relief

11. ___________ crank is fixed at the base of signal (b)
   (a) Accommodating
   (b) Signal
   (c) Vertical
   (d) Relief

12. ________crank is used to convert vertical movement into horizontal movement (c)
   (a) Accommodating
   (b) Adjustable
   (c) Vertical
   (d) Relief

13. Vertical crank is used in ________________lead out. (a)
   (a) Inside
   (b) Outside
   (c) Wire transmission
   (d) a & b

14. To divert the rod run 90 __________ crank is used (d)
   (a) Accommodating
   (b) Vertical
   (c) Relief
   (d) a & b

15. Accommodating crank 300mm x 300mm (12òx 12ó) is used for lever pitch is ___ mm (b)

(a) 125

(b) 100

(c) 133

(d) 127

16. Accommodating crank _______________ size is used for lever pitch is 100 mm (b)

(a) 400 mm x 400 mm

(b) 300 mm x 300 mm

(c) 350 mm x 350 mm

(d) 300 mm x 400 mm

17. Accommodating crank ______________ size is used for lever pitch is 125 mm (a)

(a) 350 mm x 350 mm

(b) 300 mm x 300 mm

(c) 400 mm x 300 mm

(d) 300 mm x 400 mm

18. Accommodating crank 350mm x 350mm (12òx 12ó) is used for lever pitch is ____ mm (a)

(a) 125

(b) 100

(c) 133

(d) 127

19. ____________ 300 mm x 300 mm (12òx 12ó) is used for lever pitch is 100 mm (4ó) (a)

(a) Accommodating

(b) Adjustable

(c) Vertical

(d) Relief

20. ____________ 350 mm x 350 mm (12òx 12ó) is used for lever pitch is 100 mm(4ó) (a)

(a) Accommodating

(b) Adjustable

(c) Vertical

(d) Relief

21. In adjustable crank length of the arms are ______________ (d)

(a) 400 mm x 400 mm

(b) 300 mm x 300 mm

(c) 350 mm x 350 mm

(d) 300 mm x 450 mm

22. In __________ crank length of the arms are 300 mm x 450 mm (b)

    (a) Accommodating

    (b) Adjustable

    (c) Vertical

    (d) Relief

23. Signal crank arm length are ________________ (a)

    (a) 225 mm x 300 mm

    (b) 300 mm x 300 mm

    (c) 225 mm x 350 mm

    (d) 300 mm x 450 mm

24. __________ crank arm length are 225 mm x 300 mm (d)

    (a) Accommodating

    (b) Adjustable

    (c) Vertical

    (d) Signal

25. Changing the alignment of Roding run i.e., 500 mm or 600 mm _____ Crank is used (a)

    (a) Straight Arm

    (b) Adjustable

    (c) Vertical

    (d) Signal

Chapter - 3: LEAD OUT

1. Inside cabin potion called as_________ (b)
   (a) Out side lead out
   (b) Inside lead out
   (c) Basement
   (d) Locking box

2. Out side cabin potion called as_________ (a)
   (a) Out side lead out
   (b) Inside lead out
   (c) Basement
   (d) Locking box

3. There are ______ types of Lead outs (c)
   (a) three
   (b) four
   (c) two
   (d) six

4. ________ is conned to vertical crank in inside lead out (a)
   (a) down rod
   (b) top rod
   (c) bottom rod
   (d) side rod

5. ________ is conned to Rocking shaft in inside lead out (a)
   (a) down rod
   (b) top rod
   (c) bottom rod
   (d) side rod

6. Down rod is conned to ________in inside lead out (d)
   (a) Relief crank
   (b) Horizontal crank
   (c) Accommodating
   (d) vertical crank

7. Down rod is conned to _________ in inside lead out (d)
   (a) Relief crank
   (b) Horizontal crank
   (c) Accommodating
   (d) Rocking shaft

8. Out side lead out __________crank is provided (c)

(a) Relief

(b) Horizontal

(c) Accommodating

(d) Rocking shaft

9. _________ lead out accommodating crank is provided (a)

(a) Out side

(b) Inside

(c) Basement

(d) Locking box

10. ____________ is available in three heights (c)

(a) Relief crank

(b) Horizontal crank

(c) Accommodating

(d) Rocking shaft

11. Accommodating crank is available in _____ heights (a)

(a) three

(b) four

(c) two

(d) six

12. _____________ is available in two sizes (c)

(a) Relief crank

(b) Horizontal crank

(c) Accommodating

(d) Rocking shaft

13. Accommodating crank is available in ______ sizes (c)

(a) three

(b) four

(c) two

(d) six

14. Channel irons are used for fixing of _________ in inside lead outs (d)

(a) Relief crank

(b) Horizontal crank

(c) Accommodating

(d) Vertical crank

15. Channel irons are used for fixing of ________ in In side lead outs (d)
    (a) Relief crank
    (b) Horizontal crank
    (c) Accommodating
    (d) Rocking shaft

16. Channel irons are used for fixing of ________ in Out side lead outs (c)
    (a) Relief crank
    (b) Horizontal crank
    (c) Accommodating
    (d) Rocking shaft

17. _________ is provided in inside lead out (d)
    (a) Relief crank
    (b) Horizontal crank
    (c) Accommodating
    (d) Vertical crank

18. _________ is provided in inside lead out (d)
    (a) Relief crank
    (b) Horizontal crank
    (c) Accommodating
    (d) Rocking shaft

19. _________ is provided in Out side lead out (c)
    (a) Relief crank
    (b) Horizontal crank
    (c) Accommodating
    (d) Rocking shaft

20. A Base is provided to fixed _______ (d)
    (a) Relief crank
    (b) Horizontal crank
    (c) Adjustment crank
    (d) All the cranks

21. ________must required concrete foundation to fix cranks (a)
    (a) A Base
    (b) Horizontal crank
    (c) Adjustment crank
    (d) Relief crank

22. A Base must required concrete foundation to fix _____ cranks (d)
    (a) three
    (b) four
    (c) two
    (d) all

23. A Base is provided to fixed _______ (d)
    (a) Relief crank
    (b) Horizontal crank
    (c) Adjustment crank
    (d) All the cranks and wheels

24. ___________ must not required concrete foundation (d)
    (a) Relief crank
    (b) Horizontal crank
    (c) Adjustment crank
    (d) Trestle

25. Trestle ____________ concrete foundation (a)
    (a) Not required
    (b) Required
    (c) May required
    (d) Must required

Chapter - 4: Rodding, Supports, Joints & Alignment

1. Solid rod dia. (b)
   - (a) 25mm
   - (b) 33mm
   - (c) 55mm
   - (d) 44mm

2. Solid rod available in length (a)
   - (a) 18ô
   - (b) 15ô
   - (c) 17ô
   - (d) 16ô

3. Solid rod weight (a)
   - (a) 4 lb/ft
   - (b) 6 lb/ft
   - (c) 2 lb/ft
   - (c) 3 lb/ft

4. The distance between two adjacent roller stands should not be more than _____ in solid rodding (a)
   - (a) 2.2M
   - (b) 3.3M
   - (c) 1.89M
   - (d) 4 M

5. The distance between two adjacent roller stands should not be more than _____ in tubular rodding (c)
   - (a) 2.2M
   - (b) 3.3M
   - (c) 1.85M
   - (d) 4 M

6. Trestles are supplied in (a)
   - (a) 2-way & 4-way
   - (b) 3-way & 4-way
   - (c) 1-way & 3-way
   - (d) 2-way & 3-way

7. Bottom rollers required for 2-way roller stand (b)
   - (a) 3 no.
   - (b) 2 no.
   - (c) 4 no.
   - (d) 5 no.

8. Bottom rollers required for 4-way roller stand (c)
   (a) 3 no.
   (b) 2 no.
   (c) 4 no.
   (d) 5 no.

9. Top rollers required for 2-way roller stand (b)
   (a) 3 no.
   (b) 2 no.
   (c) 4 no.
   (d) 5 no.

10. Top rollers required for 4-way roller stand (c)
   (a) 3 no.
   (b) 2 no.
   (c) 4 no.
   (d) 5 no.

11. Top roller pins required for 2-way roller stand (b)
   (a) 3 no.
   (b) 2 no.
   (c) 4 no.
   (d) 5 no.

12. Top roller pins required for 4-way roller stand (c)
   (a) 3 no.
   (b) 2 no.
   (c) 4 no.
   (d) 5 no.

13. Split pins required for 2-way roller stand (a)
   (a) 3 no.
   (b) 2 no.
   (c) 4 no.
   (d) 5 no.

14. Split pins required for 4-way roller stand (b)
   (a) 3 no.
   (b) 2 no.
   (c) 4 no.
   (d) 5 no.

15. The top of the rodding should not be less than _____ below the bottom of the rails (a)

(a) 25mm

(b) 33mm

(c) 55mm

(d) 44mm

16. The top of roller standards adjacent to tracks shall not be fixed more than ______ above rail level. (d)

(a) 25mm

(b) 33mm

(c) 55mm

(d) 64mm

17. The distance from the nearest rod to the center of the track shall not be less than _______ on BG lines. (c)

(a) 2025 mm

(b) 1370 mm

(c) 1905 mm

(d) 1164 mm

18. The distance from the nearest rod to the center of the track shall not be less than _______ on MG lines. (b)

(a) 2025 mm

(b) 1370 mm

(c) 1905 mm

(d) 1164 mm

19. Off-sets in the rodding should be limited _______ (a)

(a) 90mm

(b) 33mm

(c) 55mm

(d) 64mm

20. The distance between two adjacent roller stands should not be more than _______ in tubular rodding (a)

(a) 2.2M

(b) 3.3M

(c) 1.85M

(d) 4 M

21. A Base is provided to fixed _______ (d)

(e) Relief crank

(f) Horizontal crank

(g) Adjustment crank

(h) All the cranks

22. ________must required concrete foundation to fix cranks (a)
   (e) A Base
   (f) Horizontal crank
   (g) Adjustment crank
   (h) Relief crank

23. A Base must required concrete foundation to fix _____cranks (d)
   (e) three
   (f) four
   (g) two
   (h) all

24. A Base is provided to fixed _______ (d)
   (e) Relief crank
   (f) Horizontal crank
   (g) Adjustment crank
   (h) All the cranks and wheels

25. ___________must not required concrete foundation (d)
   (e) Relief crank
   (f) Horizontal crank
   (g) Adjustment crank
   (h) Trestle

CH5: Rod Compensator

1. Compensator need not be used for points operation up to the length of (a)
   (a) 12 M
   (b) 13 M
   (c) 18.5 M
   (d) 8 M

2. Compensator need not be used for lock bar operation up to the length of (c)
   (a) 12 M
   (b) 13 M
   (c) 18.5 M
   (d) 8 M

3. In compensator Acute angle crank arm sizes are (b)
   (a) 375 x 235 mm
   (b) 406 x 253 mm
   (c) 300 x 225 mm
   (b) 300 x 253 mm

4. In compensator Obtuse angle crank arm sizes are (b)
   (a) 375 x 235 mm
   (b) 406 x 253 mm
   (c) 300 x 225 mm
   (b) 300 x 253 mm

5. Angle between Acute angle crank arms (d)
   (a) 120^0
   (b) 80^0
   (c) 90^0
   (d) 60^0

6. Angle between Obtuse angle crank arms (a)
   (a) 120^0
   (b) 80^0
   (c) 90^0
   (d) 60^0

7. In compensator link rod size is (b)
   (a) 346 mm
   (b) 275 mm
   (c) 165 mm
   (d) 180 mm

8. One compensator must be provided up to _______ Mtrs. of the rod transmission (b)

(a) 346 M

(b) 210 M

(c) 265 M

(d) 180 M

9. ______ compensator must be provided up to 210 Mtrs. of the rod transmission (c)

(a) 3

(b) 2

(c) 1

(d) 4

10. Two compensators must be provided for more than _____________ Mtrs. of the rod transmission (b)

(a) 346 M

(b) 210 M

(c) 265 M

(d) 180 M

11. __________ no. of compensators must be provided for more than 210 Mtrs. of the rod transmission (b)

(a) 3

(b) 2

(c) 1

(d) 4

12. ___________used as compensator up to 120M transmission. (d)

(a) Accommodating Crank

(b) Horizontal Crank

(c) Vertical Crank

(d) Reverse crank

13. A reverse crank used as compensator up to _______ transmission. (a)

(a) 120 M

(b) 210 M

(c) 265 M

(d) 180 M

14.___________ crank used as compensator. (d)

(a) Accommodating

(b) Horizontal

(c) Vertical

(d) Reverse

15. Push movement is converted into Pull movement _____ crank is used (d)
    (a) Accommodating
    (b) Horizontal
    (c) Vertical
    (d) Reverse

16. Push movement is converted into Push movement _____ crank is used (a)
    (a) Normal
    (b) Horizontal
    (c) Vertical
    (d) Reverse

17. ______ movement is converted into Pull movement Reverse crank is used (c)
    (a) Pull
    (b) Horizontal
    (c) Push
    (d) Reverse

18. ______ movement is converted into Push movement Reverse crank is used (a)
    (a) Pull
    (b) Horizontal
    (c) Push
    (d) Reverse

19. ______ movement is converted into Pull movement Normal crank is used (a)
    (a) Pull
    (b) Horizontal
    (c) Push
    (d) Reverse

20. ______ movement is converted into Push movement Normal crank is used (c)
    (a) Pull
    (b) Horizontal
    (c) Push
    (d) Reverse

21. The _____ setting of the crank arms should correspond with prevailing temperature (b)
    (a) final
    (b) Initial
    (c) Push
    (d) Reverse

22. Acute angle crank works like _______ crank (a)

    (a) normal
    (b) initial
    (c) Push
    (d) Reverse

23. Obtuse angle crank works like _______ crank (d)

    (a) normal
    (b) initial
    (c) Push
    (d) Reverse

24. __________ crank works like normal crank (a)

    (a) Acute angle
    (b) Horizontal
    (c) Vertical
    (d) Obtuse angle

25. __________ crank works like Reverse crank (d)

    (a) Acute angle
    (b) Horizontal
    (c) Vertical
    (d) Obtuse angle

Ch6: Facing and Trailing point layouts

1. Facing point lock plunger length in In and Out type of locking without cross slide is (c)
   (a) 346 mm
   (b) 755 mm
   (c) 500 mm
   (d) 450 mm

2. Facing point lock plunger length in In and Out type of locking with cross slide is (b)
   (a) 3 46 mm
   (b) 755 mm
   (c) 500 mm
   (d) 450 mm

3. Facing point lock plunger length in straight through type of locking is (b)
   (a) 346 mm
   (b) 755 mm
   (c) 500 mm
   (d) 450 mm

4. Facing point lock plunger thickness is (a)
   (a) 20 mm
   (b) 38 mm
   (c) 50 mm
   (d) 45 mm

5. Facing point lock plunger width in (c)
   (a) 20 mm
   (b) 38 mm
   (c) 50 mm
   (d) 45 mm

6. Facing point lock plunger width in straight through type of locking is (b)
   (a) 20 mm
   (b) 38 mm
   c) 50 mm
   (d) 45 mm

6. Notch width in split stretcher bar in In and Out type of locking is (c)
   (a) 23 mm
   (b) 38 mm
   (c) 53 mm
   (d) 45 mm

7. Notch depth in split stretcher bar in In and Out type of locking is (a)
   (a) 23 mm
   (b) 41 mm
   (c) 53 mm
   (d) 45 mm

8. Notch width in split stretcher bar in straight through type of locking is (a)
   (a) 41 mm
   (b) 38 mm
   c) 53 mm
   (d) 45 mm

9. Notch depth in split stretcher bar in straight through type of locking is (a)
   (a) 23 mm
   (b) 41 mm
   (c) 53 mm
   (d) 45 mm

10. The length of lock bar is (a)
    (a) 42 ft
    (b) 38 ft
    (c) 53 ft
    (d) 45 ft

11. Section of lock bar is (a)
    (a) 50 x 50 x 6 mm
    (b) 50 x 40 x 6 mm
    (c) 50 x 50 x 20 mm
    (d) 40 x 40 x 6 mm

12. Inter distance between two lock bar clips shall not exceed (b)
    (a) 1040 mm
    (b) 1220 mm
    (c) 1250 mm
    (d) 950 mm

13. Total lift of lock bar is (c)
    (a) 35 mm
    (b) 38 mm
    (c) 44 mm
    (d) 40 mm

14. Leading stretcher bar should be fixed on BG at a distance of 13ò from the toe of the switch rail. (a)

(a) 13ò

(b) 14ò

(c) 15ò

(d) 12ò

15. Leading stretcher bar should be fixed on MG at a distance of 15ò from the toe of the switch rail. (c)

(a) 13ò

(b) 14ò

(c) 15ò

(d) 12ò

16. Leading stretcher bar should be fixed on ____ at a distance of 13ò from the toe of the switch rail. (a)

(a) BG

(b) NG

(c) MG

(d) SG

17. Leading stretcher bar should be fixed on ____ at a distance of 15ò from the toe of the switch rail. (c)

(a) BG

(b) NG

(c) MG

(d) SG

18. _________ stretcher bar should be fixed on BG at a distance of 13ò from the toe of the switch rail. (a)

(a) Leading

(b) following I

(c) following II

(d) following III

19. . _________ stretcher bar should be fixed on MG at a distance of 15ò from the toe of the switch rail. (a)

(a) Leading

(b) following I

(c) following II

(d) following III

20. Leading stretcher bar having the size on ____ is 6ôx 3òx ½ὰ (a)

(a) BG

(b) NG

(c) MG

(d) SG

21. Leading stretcher bar having the size on _____ is 4ôx 2 1/2òx 3/8ò (b)
   (a) BG
   (b) NG
   (c) MG
   (d) SG

22. The following stretcher bar should be fixed on ____ at a distance of 55òfrom the toe of the switch rail (a)
   (a) BG
   (b) NG
   (c) MG
   (d) SG

23. The following stretcher bar should be fixed on BG at a distance of ___ from the toe of the switch rail. (c)
   (a) 23ò
   (b) 44ò
   (c) 55ò
   (d) 62ò

24. The following stretcher bar should be fixed on ___ at a distance of 54òfrom the toe of the switch rail. (c)
   (a) BG
   (b) NG
   (c) MG
   (d) SG

25. The following stretcher bar should be fixed on MG at a distance of 54òfrom the toe of the switch rail. (c)
   (a) 43ò
   (b) 54ò
   (c) 55ò
   (d) 42ò

Ch-7 : Point and Lock Detector

1. Detector can be fixed on ________ and _______ sleepers (a)
   (a) 2 and 3
   (b) 3 and 4
   (c) 1 and 2
   (d) 4 and 5

2. __________ can be fixed on 2 and 3 sleepers (b)
   (a) FPL
   (b) Detector
   (c) Point
   (d) Radial guide

3. To install Detector on ____ and ____ sleepers sleepers must be long sleepers (a)
   (a) 2 and 3
   (b) 3 and 4
   (c) 1 and 2
   (d) 4 and 5

4. To connect ________ switch extension pieces to be fixed for tongue rails (b)
   (a) FPL
   (b) Detector
   (c) Point
   (d) Radial guide

5. To connect detector switch ___________ pieces to be fixed for tongue rails (b)
   (a) FPL
   (b) extention
   (c) Point
   (d) Radial guide

6. To connect detector switch extension pieces to be fixed for ______rails (a)
   (a) tongue
   (b) Detector
   (c) Point
   (d) Radial guide

7. In ______ cross slide is connected to detector lock slide (a)
   (a) FPL
   (b) extention
   (c) Point
   (d) Radial guide

8. In FPL ______slide is connected to detector lock slide (a)
   (a) cross
   (b) extention
   (c) Point
   (d) Radial guide

9. In FPL cross slide is connected to ________ lock slide (b)
   (a) tongue
   (b) Detector
   (c) Point
   (d) Radial guide

10. In FPL cross slide is connected to detector ______ slide (b)
    (a) tongue
    (b) lock
    (c) Point
    (d) Radial guide

11. Maximum _______ slides can be used in detector (c)
    (a) 2
    (b) 3
    (c) 4
    (d) 5

12. Maximum four slides can be used in _________ (b)
    (a) FPL
    (b) Detector
    (c) Point
    (d) Radial guide

13. _________ is connected perpendicular to point and lock slides (a)
    (a) Signal slide
    (b) Detector
    (c) Point
    (d) Radial guide

14. Signal slide is connected perpendicular to _______ and lock slides (c)
    (a) FPL
    (b) Detector
    (c) Point
    (d) Radial guide

15. Signal slide is connected __________ to point and lock slides (a)
    (a) perpendicular
    (b) straight
    (c) side
    (d) parallel

16. ________ installed in the wire transmission (b)
    (a) FPL
    (b) Detector
    (c) Point
    (d) Radial guide

17. Detector installed in the ______ transmission (d)
    (a) FPL
    (b) rod
    (c) Point
    (d) Wire

18. _____ ensures correct setting of tongue rails with stock rail & correct locking of point (b)
    (a) FPL
    (b) Detector
    (c) Point
    (d) Radial guide

19. Detector ensures correct setting of ____ rails with stock rail & correct locking of point (b)
    (a) FPL
    (b) tongue
    (c) Point
    (d) guide

20. Detector ensures correct setting of tongue rails with _______ rail and correct locking of point (a)
    (a) stock
    (b) tongue
    (c) Point
    (d) guide

Ch8: Signals & Fittings

1. ________ lower quadrant semaphore signals are generally worked by single wire transmission (a)
   (a) 2- aspect
   (b) 3- aspect
   (c) 4- aspect
   (d) Multi aspect

2. 2-Aspect lower quadrant semaphore signals are generally worked by ____________ transmission (a)
   (a) Single wire
   (b) Double wire
   (c) rod
   (d) all the above

3. _____ quadrant semaphore signals are generally worked by double wire transmission (d)
   (a) 2- aspect
   (b) 3- aspect
   (c) 4- aspect
   (d) Multi aspect

4. Upper quadrant semaphore signals are generally worked by _________ transmission (b)
   (a) Single wire
   (b) Double wire
   (c) Rod
   (d) all the above

5. In Mechanical _________ arm is connected to the down rod (a)
   (a) Signal spectacle
   (b) Signal
   (c) Signal roundels
   (d) Signal bracket

6. In Mechanical signals spectacle arm is connected to the ________ (b)
   (a) Top rod
   (b) Bottom rod
   (c) Down rod
   (d) wire

7. In tubular signal post the maximum height being only ________ (d)
   (a) 10 M
   (b) 12 M
   (c) 8 M
   (d) 10.5 M

8. Ladder on the signal post fixed at ő225mmô from the top of the post. (d)
   (a) 210 mm
   (b) 125 mm
   (c) 215 mm
   (d) 225 mm

9. Type A spectical red roundel is _______ (a)
   (a) 213 mm
   (b) 125 mm
   (c) 215 mm
   (d) 225 mm

10. Type A spectical green roundel is ________ (b)
    (a) 210 mm
    (b) 245 mm
    (c) 215 mm
    (d) 225 mm

11. Type B spectical roundel is _______ (d)
    (a) 210 mm
    (b) 125 mm
    (c) 215 mm
    (d) 245 mm

12. Type A spectical _____ roundel is 213 mm (b)
    (a) yellow
    (b) red
    (c) green
    (d) white

13. Type A spectical _______ roundel is 245 mm (c)
    (a) yellow
    (b) red
    (c) green
    (d) white

14. _______ spectical red roundel is 213 mm (a)
    (a) Type A
    (b) Type B
    (c) Type C
    (d) Type D

15. _______ spectical green roundel is 245 mm (a)
    (a) Type A
    (b) Type B
    (c) Type C
    (d) Type D

16. _______ spectical red and green roundel is 245 mm (b)
    (a) Type A
    (b) Type B
    (c) Type C
    (d) Type D

17. _______ spectacle Down rod connected in the rear (a)
    (a) Type A
    (b) Type B
    (c) Type C
    (d) Type D

18. ________ spectacle Down rod connected in the front (b)
    (a) Type A
    (b) Type B
    (c) Type C
    (d) Type D

19. Type A spectacle Down rod connected in the _____ (c)
    (a) front
    (b) top
    (c) rear
    (d) bottom

20. Type B spectacle Down rod connected in the ______ (a)
    (a) front
    (b) top
    (c) rear
    (d) bottom

21. Type A spectacle __________connected in the rear (a)
    (a) Down rod
    (b) Top rod
    (c) Rear rod
    (d) Side rod

22. Type B spectacle _________ connected in the front (a)
    (a) Down rod
    (b) Top rod
    (c) Rear rod
    (d) Side rod

23. Dead space in Type A spectical is ______ (b)
    (a) 37 mm
    (b) 63 mm
    (c) 44 mm
    (d) 52 mm

24. Dead space in Type B spectical is ______ (a)
    (a) 37 mm
    (b) 63 mm
    (c) 44 mm
    (d) 52 mm

25. __________ in Type A spectical is 63 mm (d)
    (a) Front space
    (b) Top space
    (c) Rear space
    (d) Dead space

Ch-9: Transmission of Signal Wire

1. The maximum spacing between the pulley stakes should not exceed. (b)
   (a) 8M
   (b) 10M
   (c) 4M
   (d) 6 M

2. The joints on the wire should be sufficiently clear of pulley stakes is about (a)
   (a) 2M
   (b) 6M
   (c) 4M
   (d) 8M

3. The lowest transmission wire should be about ______ clear from the ground. (b)
   (a) 120 mm
   (b) 150 mm
   (c) 200 mm
   (d) 175 mm

4. The lowest transmission wire should be about 150mm clear from the _______ (c)
   (a) top wire
   (b) side wire
   (c) ground
   (d) bottom wire

5. The _______transmission wire should be about 150mm clear from the ground. (c)
   (a) top wire
   (b) side wire
   (c) lowest
   (d) bottom wire

6. When wire run crossing under road are made through pipes provided in the level crossings (d)
   (a) pipes
   (b) channel
   (c) concrete struff
   (d) all the above

7. __________ lever may be employed at a distance of 60 to 80 M from the signal. (a)
   (a) Facile stroke lever
   (b) direct lever
   (c) catch handle
   (d) ground lever

8. Facile stroke lever may be employed at a distance of ________from the signal. (c)
   (a) 50 to 80 M
   (b) 70 to 80 M
   (c) 60 to 80 M
   (d) 60 to 70 M

9. Facile stroke lever may be employed at a distance of 60 to 80 M from the _____ (b)
   (a) point
   (b) signal
   (c) lever frame
   (d) lock bar

10. Signal transmission up to ______ Comes under short distance transmission (a)
    (a) 300 M
    (b) 400 M
    (c) 250 M
    (d) 350 M

11. Signal transmission up to 300 mtrs. Comes under _____distance transmission (d)
    (a) long
    (b) medium
    (c) very long
    (d) short

12. ______ transmission above 300 mtrs Comes under short distance transmission (b)
    (a) point
    (b) signal
    (c) lever frame
    (d) lock bar

13. Signal transmission above ______ Comes under short distance transmission (a)
    (a) 300 M
    (b) 400 M
    (c) 250 M
    (d) 350 M

14. Signal transmission above 300 mtrs. Comes under _____distance transmission (a)
    (a) long
    (b) medium
    (c) very long
    (d) short

15. ______ transmission up to 300 mtrs Comes under short distance transmission (b)
    (a) point
    (b) signal
    (c) lever frame
    (d) lock bar

16. The length of pulley stake is about ______ (a)
    (a) 1220 mm
    (b) 1200 mm
    (c) 1150 mm
    (d) 1250 mm

17. The length of ________is about 1220 mm (b)
    (a) Facile stroke lever
    (b) pulley stake
    (c) catch handle
    (d) ground lever

18. The ________ of pulley stake is about 1220 mm (c)
    (a) height
    (b) depth
    (c) length
    (d) size

19. The signal wire transmission exceeding ____ is provided with a cabin wire adjuster (a)
    (a) 300 M
    (b) 400 M
    (c) 250 M
    (d) 350 M

20. The signal wire transmission exceeding 300 mtrs. Is provided with a _______ (c)
    (a) Facile stroke lever
    (b) pulley stake
    (c) cabin wire adjuster
    (d) wire adjusting screw

21. Vertical rope wheel is provided to convert ____ movement into horizontal Movement (b)
    (a) horizontal
    (b) vertical
    (c) parallel
    (d) side

22. Vertical rope wheel is provided to convert vertical movement into ______ Movement (a)

    (a) horizontal

    (b) vertical

    (c) parallel

    (d) side

23. The signal wire transmission less than 300 mtrs. Is provided with a _______ (d)

    (a) Facile stroke lever

    (b) pulley stake

    (c) cabin wire adjuster

    (d) wire adjusting screw

24. The signal wire transmission less than _____ is provided with a wire adjusting screw (a)

    (a) 300 M

    (b) 400 M

    (c) 250 M

    (d) 350 M

25. Signal crank fixed on signal base connected with ________ one side and down rod other side (a)

    (a) wire

    (b) rod

    (c) down rod

    (d) top rod

Ch-10: Level Crossing Gates

1. SPL ï Class L.C. Gates can be provided if the TVU is more than _______ (c)
   (a) 30,000
   (b) 25,000
   (c) 50,000
   (d) 40,000

2. A ï Class L.C. Gates can be provided if the TVU is more than _______ (a)
   (a) 30,000
   (b) 25,000
   (c) 50,000
   (d) 40,000

3. B ï Class L.C. Gates can be provided if the TVU is more than _______ (b)
   (a) 30,000
   (b) 20,000
   (c) 50,000
   (d) 40,000

4. Range of operation for lifting barrier type is ________ (c)
   (a) 200 M
   (b) 125 M
   (c) 150 M
   (d) 250 M

5. The open position of the lifting barrier shall be within _____________ degrees from the horizontal (c)
   (a) 80 to 90
   (b) 75 to 85
   (c) 80 to 85
   (d) 40 to 70

6. The closed position of the lifting barrier shall be within ___________ degrees from the horizontal. (a)
   (a) 0 to 10
   (b) -5 to +5
   (c) 0 to 5
   (d) 5 to 10

7. _________ L.C. Gates can be provided if the TVU is more than 50,000 (a)
   (a) SPL ï Class
   (b) A Class
   (c) B Class
   (d) C Class

8._________ L.C. Gates can be provided if the TVU is more than 30,000 (b)

(a) SPL ï Class

(b) A Class

(c) B Class

(d) C Class

9._________ L.C. Gates can be provided if the TVU is more than 20,000 (c)

(a) SPL ï Class

(b) A Class

(c) B Class

(d) C Class

10. _________ L.C. Gates can be provided if the TVU is more than 25,000 (c)

(a) SPL ï Class

(b) A Class

(c) B1 Class

(d) C Class

11. L.C. Gate Census will be taken once in ________years (c)

(a) 1

(b) 2

(c) 3

(d) 4

12. The Whistle Board is provided on track at ______ Mtrs. while approaching L.C Gate (b)

(a) 200

(b) 600

(c) 550

(d) 800

13. The _______Board is provided on track at 600 Mtrs. while approaching L.C. Gate (a)

(a) Whistle

(b) Passenger warning

(c) Goods warning

(d) Sighting

14. Visibility of manned gate is _____ (c)

(a) 4 M

(b) 2 M

(c) 5 M

(d) 6 M

15. Speed Breakers are provided at _____ from center of track on both sides. (b)

(a) 40 M

(b) 20 M

(c) 15 M

(d) 25 M

16. Gate post be provided at _____ from center of track (d)

(a) 4 M

(b) 2 M

(c) 5 M

(d) 3 M

17. _______ L.C. Gates provided for cattle crossing (a)

(a) D Class

(b) A Class

(c) B Class

(d) C Class

18. Fencing parallel to the track in L.C. Gate to be provided both side of track on either side of road is _________ (c)

(a) 40 M

(b) 20 M

(c) 15 M

(d) 25 M

19. Gate lodge to be provided at _______ from center of track. (b)

(a) 4 M

(b) 6 M

(c) 5 M

(d) 3 M

20. Height gauge to be provided at _________ from center of track (d)

(a) 4 M

(b) 6 M

(c) 5 M

(d) 8 M

21. Boom height from road surface is ______________ to be maintained (d)

(a) 4 M

(b) 6 M

(c) 0.5 to 1 M

(d) 0.8 to 1 M

22. Road width in A Class gate is ______ (c)

    (a) 4 M

    (b) 6 M

    (c) 5.5 M

    (d) 8 M

23. Road width in D Class gate is ______ (d)

    (a) 4 M

    (b) 6 M

    (c) 5.5 M

    (d) 2 M

24. The boom shall be either painted with _____ mm bands of alternate black and yellow color or provided with approved type of retro-reflective strips. (d)

    (a) 200

    (b) 600

    (c) 550

    (d) 300

25. Range of Mechanical lifting barrier is _______ (d)

    (a) 200 M

    (b) 600 M

    (c) 150 M

    (d) 300 M

CH11: Key Locks

1. Standard size of Key lock (E-type) _____________ (b)
   (a) 155 x 100 x 65 mm
   (b) 155 x 95 x 65 mm
   (c) 155 x 95 x 75 mm
   (d) 100 x 75 x 65 mm

2. E-type Key locks used for locking _______________ (d)
   (a) points
   (b) levers
   (c) location boxes
   (d) all the above

3. The stroke of the E-type lock is __________ (c)
   (a) 20 mm
   (b) 15 mm
   (c) 25 mm
   (d) 30 mm

4. The no. of wards in the key is _________ (d)
   (a) 2
   (b) 1
   (c) 5
   (d) 3

5. Length of each key ward _________ (b)
   (a) 2 mm
   (b) 6 mm
   (c) 5 mm
   (d) 3 mm

6. Length of each lug __________ (a)
   (a) 18 mm
   (b) 15 mm
   (c) 25 mm
   (d) 30 mm

7. Length of key ward _________ (a)
   (a) 18 mm
   (b) 15 mm
   (c) 25 mm
   (d) 30 mm

8. Length of each feather __________ (a)
   (a) 18 mm
   (b) 15 mm
   (c) 25 mm
   (d) 30 mm

9. No. of ward combination is _______ in E Type lock (c)
   (a) 20
   (b) 25
   (c) 24
   (d) 30

10. Types E Type of locks available is 42 (a)
    (a) 42
    (b) 50
    (c) 40
    (d) 30

11. H.P Locks are fixed at a distance of ____ from normal tongue side in the point on BG (d)
    (a) 620 mm
    (b) 515 mm
    (c) 250 mm
    (d) 500 mm

12. H.P Locks are fixed at a distance of ____ from normal tongue side in the point on MG (d)
    (a) 620 mm
    (b) 515 mm
    (c) 250 mm
    (d) Center

13. H.P Locks are fixed at a distance of ____ from normal tongue side in the point on NG (d)
    (a) 620 mm
    (b) 515 mm
    (c) 250 mm
    (d) center

14. H.P. Locks are fixed at a distance of 500 mm from normal tongue side in the point on _______ (a)
    (a) BG
    (b) MG
    (c) NG
    (d) SG

15. H.P Locks are fixed at a distance of center from normal tongue side in the point on ___ (d)
    (a) BG
    (b) MG
    (c) NG
    (d) MG & NG

16. __________H. P. Locks fixed for trap point (a)
    (a) 1- way
    (b) 2- way
    (c) 3- way
    (d) 4 ï way

17. Tumblers will actuate with correct ______ combination (a)
    (a) ward
    (b) lug
    (c) feather
    (d) lug and feather

18. Operating piece will actuate with correct ______ combination (d)
    (a) ward
    (b) lug
    (c) feather
    (d) lug and feather

19. ______will actuate with correct ward combination (a)
    (a) Tumblers
    (b) lug
    (c) feather
    (d) Operating piece

20. _________ will actuate with correct lug and feather combination (d)
    (a) Tumblers
    (b) lug
    (c) ward
    (d) Operating piece

Objective Questions

Ch-2: Double Wire Levers

1. Double wire levers rotate through _____, when operated from normal to reverse. (a)
   (a) 180^0
   (b) 360^0
   (c) 270^0
   (d) 90^0

2. Double wire levers rotate through _____, when operated from reverse to normal (a)
   (a) 180^0
   (b) 360^0
   (c) 270^0
   (d) 90^0

3. The stroke transmitted to the tappet is ________ when a lever is operated from normal to reverse. (b)
   (a) 30 mm
   (b) 40 mm
   (c) 50 mm
   (d) 45 mm

4. Locking tappet stroke of a clutch lever is _____ upwards when tripped at Normal. (b)
   (a) 20 mm
   (b) 12 mm
   (c) 15 mm
   (d) 18 mm

5. Locking tappet stroke of a clutch lever is _____ downwards when tripped at Reverse. (b)
   (a) 20 mm
   (b) 12 mm
   (c) 15 mm
   (d) 18 mm

6. Locking tappet stroke of direct lever is ______ upwards while operating from Normal to Reverse. (d)
   (a) 20 mm
   (b) 12 mm
   (c) 35 mm
   (d) 40 mm

7. Locking tappet stroke of direct lever is ______ downwards while operating from Reverse to Normal. (c)
   (a) 20 mm
   (b) 12 mm
   (c) 40 mm
   (d) 18 mm

8. Locking tappet stroke of clutch lever is _______ upwards while operating from Normal to Reverse. (a)
   (a) 40 mm
   (b) 42 mm
   (c) 50 mm
   (d) 45 mm

9. Locking tappet stroke of clutch lever is _____ downwards while operating from Reverse to Normal. (a)
   (a) 40 mm
   (b) 42 mm
   (c) 50 mm
   (d) 45 mm

10. Locking tappet stroke of Rack & Pinion lever is ________ upwards while operating from Normal to Reverse. (a)
    (a) 40 mm
    (b) 42 mm
    (c) 50 mm
    (d) 45 mm

11. Locking tappet stroke of Rack & Pinion is ______ downwards while operating from Reverse to Normal. (a)
    (a) 40 mm
    (b) 42 mm
    (c) 50 mm
    (d) 45 mm

12. Locking tappet stroke is _______ upwards while operating from Normal to Pull of the three position miniature lever. (c)
    (a) 40 mm
    (b) 42 mm
    (c) 20mm
    (d) 45 mm

13 Locking tappet stroke is ______ downwards while operating from Normal to Push of the three position miniature lever. (a)

(a) 40 mm

(b) 42 mm

(c) 20 mm

(d) 45 mm

14. Locking tappet stroke is ______ downwards while operating from Normal to Push of the miniature lever. (c)

(a) 40 mm

(b) 42 mm

(c) 20 mm

(d) 45 mm

15. _______ stroke Direct lever operates the signal without detector up to 1200 Mts. (b)

(a) 400 mm

(b) 500 mm

(c) 600 mm

(d) 450 mm

16. 500 mm stroke Direct lever operates the signal without detector up to ______ Mts. (a)

(a) 1200

(b) 1500

(c) 1600

(d) 1000

17. ________ stroke Direct lever operates the signal without detector greater than 1200 Mts. (c)

(a) 400 mm

(b) 500 mm

(c) 600 mm

(d) 450 mm

18. 600 mm stroke Direct lever operates the signal without detector greater than _________ Mts. (a)

(a) 1200

(b) 1500

(c) 1600

(d) 1000

19 ________ stroke Clutch lever operates the Points up to 500 Mts. (b)

(a) 400 mm

(b) 500 mm

(c) 600 mm

(d) 450 mm

20. 500 mm stroke Clutch lever operates the Points up to _______ Mts. (b)
    (a) 200
    (b) 500
    (c) 600
    (d) 1000

21 ______ stroke Clutch lever operates the Point up to 730 Mts. (c)
    (a) 400 mm
    (b) 500 mm
    (c) 600 mm
    (d) 450 mm

22. 600 mm stroke Clutch lever operates the Point up to _____ Mts. (a)
    (a) 730
    (b) 500
    (c) 600
    (d) 1000

23. _______ stroke Clutch lever operates the Detector up to 600 Mts. (b)
    (a) 400 mm
    (b) 500 mm
    (c) 600 mm
    (d) 450 mm

24. 500 mm stroke Clutch lever operates the Detector up to ____ Mts. (c)
    (a) 730
    (b) 500
    (c) 600
    (d) 1000

25. The stroke of the Rack& Pinion lever is 200 mm (c)
    (a) 400 mm
    (b) 500 mm
    (c) 200 mm
    (d) 450 mm

Ch-3: Coupling of Levers

1. Coupling of levers economizes cost of material of ____ transmission. (d)
   (a) two
   (b) three
   (c) four
   (d) one

2. Coupling of levers economizes cost of installation of ____transmission. (d)
   (a) two
   (b) three
   (c) four
   (d) one

3. Coupling of levers economizes cost of maintenance of _____ transmission. (d)
   (a) two
   (b) three
   (c) four
   (d) one

4. Coupling of levers economizes cost of _____ compensator. (d)
   (a) two
   (b) three
   (c) four
   (d) one

5. Coupling of levers economizes cost of _____ signal mechanism when located on the same signal post. (d)
   (a) two
   (b) three
   (c) four
   (d) one

6. The _____ levers should be adjacent in the lever frame for coupling. (a)
   (a) two
   (b) three
   (c) four
   (d) one

7. The two levers should be ______in the lever frame for coupling. (a)
   (a) Adjacent
   (b) Far
   (c) Front and back
   (d) Starting and end

8. Length of transmission between the two coupled functions should not be greater than _________. (c)

   (a) 80 M

   (b) 70 M

   (c) 73 M

   (d) 85 M

9. ________ coupling to be adopted for the conflicting functions. (a)

   (a) Push-pull

   (b) Push-push

   (c) Pull-pull

   (d) Pull-push

10. Pull-Pull coupling to be adopted for the successive operated functions. (c)

    (a) Push-pull

    (b) Push-push

    (c) Pull-pull

    (d) Pull-push

11. ______ wires of both the coupling device levers are connected to the coupling device levers in Push-Pull coupling. (a)

    (a) Pull

    (b) Push

    (c) Return

    (d) Push and pull

12. ______ wire of first operated lever and Pull wire of second operated lever are connected are connected to the coupling device levers in Pull-Pull coupling. (c)

    (a) Pull

    (b) Push

    (c) Return

    (d) Push and pull

13. L.Q. Main and Loop Line home signals are connected in _______ coupling. (a)

    (a) Push-pull

    (b) Push-push

    (c) Pull-pull

    (d) Pull-push

14. L.Q. or U.Q. 1st loop and 2nd loop home signals are connected in ______ coupling (a)

    (a) Push-pull

    (b) Push-push

    (c) Pull-pull

    (d) Pull-push

15. A starter and a shunt below starter are connected in _______ coupling. (a)
    (a) Push-pull
    (b) Push-push
    (c) Pull-pull
    (d) Pull-push

16. Two shunt signals one below the other are connected in ______ coupling. (a)
    (a) Push-pull
    (b) Push-push
    (c) Pull-pull
    (d) Pull-push

17. A Home Signal and a Calling on signal below Home signal are connected in ______ coupling. (a)
    (a) Push-pull
    (b) Push-push
    (c) Pull-pull
    (d) Pull-push

18. Normal and Reverse detectors are connected in ________coupling. (a)
    (a) Push-pull
    (b) Push-push
    (c) Pull-pull
    (d) Pull-push

19. Main line Home signal on a multiple aspect signalling territory are connected in ________ coupling. (c)
    (a) Push-pull
    (b) Push-push
    (c) Pull-pull
    (d) Pull-push

20. _______ is adopted to prevent the tripping of a coupled clutch lever. (a)
    (a) Hook lock
    (b) Coupling device
    (c) Clutch
    (d) Push-pull

Ch-4: Points

1. The rack movement during unlocking of point is __________ (a)
   (a) 51 mm
   (b) 62 mm
   (c) 42 mm
   (d) 37 mm

2. The rack movement during Point setting stroke ___________ (b)
   (a) 51 mm
   (b) 107 mm
   (c) 42 mm
   (d) 95 mm

3. The rack movement during unlocking of point is ________ (c)
   (a) 51 mm
   (b) 62 mm
   (c) 42 mm
   (d) 37 mm

4. The point mechanism movement during unlocking of point is _______ (d)
   (a) 150 mm
   (b) 62 mm
   (c) 42 mm
   (d) 127 mm

5. The point mechanism movement during Point setting stroke ______ (d)
   (a) 150 mm
   (b) 162 mm
   (c) 142 mm
   (d) 268 mm

6. The point mechanism movement during unlocking of point is_______ (a)
   (a) 105 mm
   (b) 62 mm
   (c) 42 mm
   (d) 268 mm

7. The total movement of rack during its lever operation is _________ (b)
   (a) 150 mm
   (b) 200 mm
   (c) 142 mm
   (d) 137 mm

8. Broken wire lock pawls must be tested once in _________ (b)
   - (a) A month
   - (b) three months
   - (c) six months
   - (d) a year

9. The width of the lock plunger on EFPL is _________ (d)
   - (a) 51 mm
   - (b) 62 mm
   - (c) 42 mm
   - (d) 49.8 mm

10. The width of the locks on the EFPL is ______ independently for N and R (d)
    - (a) 51 mm
    - (b) 62 mm
    - (c) 42 mm
    - (d) 38 mm

11. The two locks on the EFPL are staggered by _______ (a)
    - (a) 12 mm
    - (b) 62 mm
    - (c) 42 mm
    - (d) 38 mm

12. The two locks on the EFPL are separated by the distance by ________ (a)
    - (a) 158 mm
    - (b) 162 mm
    - (c) 142 mm
    - (d) 150 mm

13. EFPL to be connected by the thumb rule __________ (b)
    - (a) Right in left out
    - (b) Left in right out
    - (c) Right in
    - (d) Left out

14. The pitch of the notches on split lock stretchers with EFPL is _____in BG. (d)
    - (a) 151 mm
    - (b) 162 mm
    - (c) 142 mm
    - (d) 127 mm

15. The movement of cross slide when unlocked in EFPL is ______ (b)
    (a) 15 mm
    (b) 16 mm
    (c) 12 mm
    (d) 13 mm

16. The movement of cross slide when relocked in EFPL is ______ (b)
    (a) 15 mm
    (b) 16 mm
    (c) 12 mm
    (d) 13 mm

17. The movement of cross slide during point operation in EFPL is _______ (a)
    (a) Zero mm
    (b) 16 mm
    (c) 12 mm
    (d) 13 mm

18. Facing point Lock are fixed at a distance of _____ from normal tongue side in the point on BG (d)
    (e) 620 mm
    (f) 515 mm
    (g) 250 mm
    (h) 500 mm

19. Facing point Lock are fixed at a distance of _____ from normal tongue side in the point on MG (d)
    (e) 620 mm
    (f) 515 mm
    (g) 250 mm
    (h) Center

20. Facing point Lock are fixed at a distance of _____ from normal tongue side in the point on NG (d)
    (e) 620 mm
    (f) 515 mm
    (g) 250 mm
    (h) Center

21. Facing point lock plunger length in straight through type of locking is _____ (b)
    (a) 346 mm
    (b) 755 mm
    (c) 500 mm
    (d) 450 mm

22. Facing point lock plunger width in straight through type of locking is ____ (b)
    (a) 20 mm
    (b) 38 mm
    (c) 50 mm
    (d) 45 mm

23. The length of lock bar is __________ (a)
    (a) 42 ft
    (b) 38 ft
    (c) 53 ft
    (d) 45 ft

24. Section of lock bar is ______ (a)
    (a) 50 x 50 x 6 mm
    (b) 50 x 40 x 6 mm
    (c) 50 x 50 x 20 mm
    (d) 40 x 40 x 6 mm

25. Total lift of lock bar is ______ (c)
    (a) 35 mm
    (b) 38 mm
    (c) 44 mm
    (d) 40 mm

Ch-5: Signals

1. Signal mechanism should provide _________ protection (a)
   (a) Broken wire
   (b) Wire loose
   (c) Broken rod
   (d) lever
2. Point mechanism should provide _________ protection (a)
   (a) Broken wire
   (b) Wire loose
   (c) Broken rod
   (d) Lever
3. Detector mechanism should provide ________ protection (a)
   (a) Broken wire
   (b) Wire loose
   (c) Broken rod
   (d) lever
4. ______ mechanism should provide broken wire protection (d)
   (a) Signal
   (b) Point
   (c) Detector
   (d) All the above
5. Signal mechanism should increase the range of signal operation & ease of lever operation. (d)
   (a) Signal
   (b) Point
   (c) Detector
   (d) All the above
6. A single signal mechanism has _____ stop (a)
   (a) One
   (b) Two
   (c) Three
   (d) four
7. A coupled signal mechanism has _____ stops (b)
   (a) One
   (b) Two
   (c) Three
   (d) four

8. 0 - 45^0 - 90^0 Signal Mechanism is used for working 3 aspects main line Home used for working 3 aspects main line Home (a)
   (a) 0 - 45^0 - 90^0
   (b) 0 - 0 - 90^0
   (c) 45^0 - 0 - 90^0
   (d) 45^0 - 0 - 45^0

9. 45^0 - 0 - 90^0 Signal Mechanism is used for working the distant signal. (c)
   (a) 0 - 45^0 - 90^0
   (b) 0 - 0 - 90^0
   (c) 45^0 - 0 - 90^0
   (d) 45^0 - 0 - 45^0

10. 0 - 45^0 - 90^0 Signal Mechanism is used for working of (a)
    (a) MAUQ Mine line starter
    (b) MAUQ loop line starter
    (c) MAUQ advance starter
    (d) MAUQ distance starter

11. 0 - 45^0 Signal Mechanism is used for working of (b)
    (a) MAUQ Mine line starter
    (b) MAUQ loop line starter
    (c) MAUQ advance starter
    (d) MAUQ distance starter

12. 0 - 90^0 Signal Mechanism is used for working of (c)
    (a) MAUQ Mine line starter
    (b) MAUQ loop line starter
    (c) MAUQ advance starter
    (d) MAUQ distance starter

13. 45^0 - 0 - 90^0 Signal Mechanism is used for working the distant signal. (d)
    (a) MAUQ Mine line starter
    (b) MAUQ loop line starter
    (c) MAUQ advance starter
    (d) MAUQ distance starter

14. 0 - 45^0 Signal Mechanism is used for working of (b)
    (a) TALQ Mine line starter
    (b) TALQ loop line starter
    (c) TALQ advance starter

(d) All the above

15. _________ signal mechanism provided for distant signal (b)

(a) Pull-pull

(b) Push-pull

(c) Push

(d) Pull

Ch-6: Detectors

1. Length of Bottom rim is_________. (a)
   (a) 176 mm
   (b) 869 mm
   (c) 75 mm
   (d) 30 mm

2. Length of Detecting rim is __________ (b)
   (a) 176 mm
   (b) 869 mm
   (c) 75 mm
   (d) 30 mm

3. Length of Control rim is ___________ (c)
   (a) 176 mm
   (b) 869 mm
   (c) 75 mm
   (d) 30 mm

4. Length of Locking rim is 30 mm. (d)
   (a) 176 mm
   (b) 869 mm
   (c) 75 mm
   (d) 30 mm

5. Length of ___________ rim is 176 mm (a)
   (a) Bottom
   (b) Control
   (c) Detecting
   (d) Locking

6. Length of ___________ rim is 869 mm (c)
   (a) Bottom
   (b) Control
   (c) Detecting
   (d) Locking

7. Length of ___________ rim is 75 mm (b)
   (a) Bottom
   (b) Control
   (c) Detecting
   (d) Locking

8. Length of ___________ rim is 30 mm (d)
   (a) Bottom
   (b) Control
   (c) Detecting
   (d) Locking
9. Height of Bottom rim is _______ (c)
   (a) 16 mm
   (b) 25 mm
   (c) 10 mm
   (d) 30 mm
10. Height of _________ rim is 10 mm. (a)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) Locking
11. Height of Control rim is _________ (b)
    (a) 16 mm
    (b) 25 mm
    (c) 10 mm
    (d) 30 mm
12. Height of _________ rim is 25 mm (b)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) Locking
13. Height of Detecting rim is ______ (c)
    (a) 16 mm
    (b) 25 mm
    (c) 10 mm
    (d) 30 mm
14. Height of _______ rim is 10 mm. (c)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) locking

15. Height of Locking rim is ________ (c)
    (a) 16 mm
    (b) 25 mm
    (c) 10 mm
    (d) 30 mm

16. Height of _______ rim is10 mm. (d)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) Locking

17. ________ rim permits the detector to be installed in a signal transmission (c)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) Locking

18. _______ rim establishes correct relation between switch and stock rails. (d)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) Locking

19. ________ rim locks the points in the last operated position when the wire opposite this rim breaks. (d)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) Locking

20. _______ rim proves the route (b)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) Locking

21. ________ rim acts as a limiting stop in the event of wire breakage (b)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) Locking

22. _______ rim helps the Locking rim to lock the points in the last operated position in the event of wire breakage. (b)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) Locking

23. _______ rim helps the Detecting rim to lock the points in the last operated position in the event of wire breakage. (b)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) Locking

24. Control Rim ensures the tripping of clutch lever. (b)
    (a) Bottom
    (b) Control
    (c) Detecting
    (d) locking

25. Control Rim ensures the tripping of _________. (a)
    (a) Clutch lever
    (b) Direct lever
    (c) Miniature lever
    (d) Rack and pinion lever

Ch-7: Compensators

1. Double wire compensator introduces initial tension ________ in the transmission wires with the transmission at rest. (c)
   (a) 48 kgs
   (b) 58 kgs
   (c) 68 kgs
   (d) 85 kgs

2. Double wire _________ introduces initial tension 68 kgs. in the transmission wires with the transmission at rest. (d)
   (a) detector
   (b) coupling device
   (c) point mechanism
   (d) compensator

3. The compensator levers should be _______ during operation of the lever. (a)
   (a) Locked
   (b) Free
   (c) Vertical
   (d) Parallel

4. The _________ should be locked during operation of the lever. (d)
   (a) detector
   (b) coupling device
   (c) point mechanism
   (d) compensator levers

5. Stretch in the intact wire in case of point transmission ________ (b)
   (a) 150 mm
   (b) 100 mm
   (c) 200 mm
   (d) 250 mm

6. Stretch in the intact wire in case of ________ transmission is 100 mm (a)
   (a) Point
   (b) Detector
   (c) Signal
   (d) L C Gate

7. Wire breakage mark is indicated by ______ counter sunk depression (b)
   (a) 5 mm
   (b) 6 mm
   (c) 7 mm
   (d) 4 mm

8. Compensator locking stroke should not be greater than _______ (c)
   (a) 15 mm
   (b) 20 mm
   (c) 25 mm
   (d) 30 mm

9. _________ locking stroke should not be greater than 25 mm (d)
   (a) detector
   (b) coupling device
   (c) point mechanism
   (d) compensator

10. Compensator having ______ levers (b)
    (a) 3
    (b) 2
    (c) 1
    (d) No levers

11. Compensator each lever provided ______ kgs weight (a)
    (a) 95 kgs
    (b) 58 kgs
    (c) 68 kgs
    (d) 85 kgs

12. Single compensator will have _____ pairs of wheels. (c)
    (a) 2
    (b) 4
    (c) 3
    (d) 1

13. Coupled compensator will have 4 pairs of wheels. (b)
    (a) 2
    (b) 4
    (c) 3
    (d) 1

14. óAôType Compensator Single, which is capable of stroke _____ (a)
    (a) 56ò
    (b) 45ò
    (c) 72ò
    (d) 92ò

15. ________ Compensator Single, which is capable of stroke 56ò (a)

(a) óAôType

(b) óBôType

(c) óCôType

(d) óDôType

16. óAôType Compensator Coupled, which is capable of stroke _____ (a)

(a) 56ò

(b) 45ò

(c) 72ò

(d) 92ò

17. ________ Compensator Coupled, which is capable of stroke 56ò (a)

(a) óAôType

(b) óBôType

(c) óCôType

(d) óDôType

18. óBôType Compensator Single, which is capable of stroke _____ (c)

(a) 56ò

(b) 45ò

(c) 72ò

(d) 92ò

19. ________ Compensator Single, which is capable of stroke 72ò (b)

(a) óAôType

(b) óBôType

(c) óCôType

(d) óDôType

20. óBôType Compensator Coupled, which is capable of stroke _____ (c)

(a) 56ò

(b) 45ò

(c) 72ò

(d) 92ò

21. ________ Compensator Coupled, which is capable of stroke72ò (b)

(a) óAôType

(b) óBôType

(c) óCôType

(d) óDôType

22. óCôType Compensator Coupled, which is capable of stroke _____ (d)

(a) 56ò

(b) 45ò

(c) 72ò

(d) 92ò

23. ________ Compensator Coupled, which is capable of stroke 92ò (c)

(a) óAôType

(b) óBôType

(c) óCôType

(d) óDôType

24. óAô Type single 56ò stroke compensator used up to ________ transmission for point operation (b)

(a) 500 M

(b) 730 M

(c) 1400 M

(d) 1000 M

25. óAô Type single 56ò stroke compensator used up to ________________ transmission for signal operation (b)

(a) 500 M

(b) 730 M

(c) 1400 M

(d) 1000 M

26. óAôType single 56ò stroke compensator used up to ___________ transmission for detector operation (b)

(a) 500 M

(b) 730 M

(c) 1400 M

(d) 1000 M

27. óBô Type single 72ò stroke compensator used up to ________ transmission for signal operation (c)

(a) 500 M

(b) 730 M

(c) 1400 M

(d) 1000 M

28. óBô Type single 56ò stroke compensator used up to _________ transmission for detector operation (b)

(a) 500 M

(b) 730 M

(c) 1400 M

(d) 1000 M

29. óCô Type coupled 92ò stroke compensator used up to _________ transmission for signal operation (c)

(a) 500 M

(b) 730 M

(c) 1400 M

(d) 1000 M

30. óCôType single 92ò stroke compensator used up to ____________ transmission for detector operation (c)

(a) 500 M

(b) 730 M

(c) 1400 M

(d) 1000 M

Ch-8 : Transmissions

1. Inter distance between two pulley stakes should not be greater than ______ in case of Signals. (a)
   (a) 20 M
   (b) 15 M
   (c) 25 M
   (d) 30 M

2. Inter distance between two pulley stakes should not be greater than 20 Mts in case of ________. (a)
   (a) Signal
   (b) Point
   (c) Detector
   (d) Lock bar

3. Inter distance between two pulley stakes should not be greater than _______ in case of Points. (b)
   (a) 20 M
   (b) 15 M
   (c) 25 M
   (d) 30 M

4. Inter distance between two pulley stakes should not be greater than 15 Mts in case of _________. (b)
   (a) Signal
   (b) Point
   (c) Detector
   (d) Lock bar

5. Inter distance between two pulley stakes should not be greater than ______ in case of Detectors. (b)
   (a) 20 M
   (b) 15 M
   (c) 25 M
   (d) 30 M

6. Inter distance between two pulley stakes should not be greater than 15 Mts in case of ________. (c)
   (a) Signal
   (b) Point
   (c) Detector
   (d) Lock bar

7. Inter distance between two pulley stakes should not be greater than ______ in case of Signals with Detectors. (b)
   (a) 20 M
   (b) 15 M
   (c) 25 M
   (d) 30 M

8. Inter distance between two pulley stakes should not be greater than 15 Mts in case of ______________________ (c)
   (a) Signal with signal
   (b) Signal with Point
   (c) Signal with Detector
   (d) Signal with Lock bar

9. Bottom most pulley should be 300 mm clear of ground in the D.W transmission. (d)
   (a) 200 mm
   (b) 150 mm
   (c) 250 mm
   (d) 300 mm

10. Transmission running in the diversion up to _____________ should run through diversion pulley (b)
    (a) 20^0
    (b) 10^0
    (c) 30^0
    (d) 40^0

11. Transmission running in the diversion from straight up to 10^0 should run through ______________. (a)
    (a) Diversion pulley
    (b) Diversion wheel dia. 195 mm
    (c) Diversion wheel dia. 225 mm
    (d) Diversion wheel dia. 150 mm

12. Transmission running in the diversion up to ______ should run through horizontal diversion wheel of dia 195 mm. (c)
    (a) 20^0
    (b) 10^0
    (c) 30^0
    (d) 40^0

13. Transmission running in the diversion from 10^0 up to 30^0 should run through horizontal ___________________. (b)
    (a) Diversion pulley
    (b) Diversion wheel dia. 195 mm
    (c) Diversion wheel dia. 225 mm
    (d) Diversion wheel dia. 150 mm

14. Transmission running in the diversion _________ should run through horizontal diversion wheel of dia 225 mm. (a)
    (a) Above 30^0
    (b) Above 20^0
    (c) Above 40^0
    (d) Above 50^0

15. Transmission running in the diversion greater than should run through horizontal _________________. (c)
    (a) Diversion pulley
    (b) Diversion wheel dia. 195 mm
    (c) Diversion wheel dia. 225 mm
    (d) Diversion wheel dia. 150 mm

Objective

Chaprer-1 : Introduction to OHE System

1. Electric Traction began in India in 1925 with (d)
   (a) 1000 Volt D.C.
   (b) 7500 Volt D.C.
   (c) 2000 Volt D.C.
   (d) 1500 Volt D.C.

2. In the year of 1958 _________ Volt DC Electric Traction was introduced in India (c)
   (a) 2000 Volt D.C.
   (b) 2500 Volt D.C.
   (c) 3000 Volt D.C.
   (d) 3500 Volt D.C.

3. In the year 1951, _________ country first introduced 25 KV AC single phase 50 cycle traction system in the world (a)
   (a) FRANCE
   (b) JAPAN
   (c) CHINA.
   (d) INDIA

4. Traction Sub-Stations located along the route of the electrified sections at distances of _________ (c)
   (a) 10 to 20 KM
   (b) 30 to 40 KM
   (c) 40 to 50 KM
   (d) 50 to 60 KM

5. At each traction sub-station, normally _________ no of single phase transformers of 21.6/30.2 MVA capacity are installed (b)
   (a) One
   (b) Two
   (c) three
   (d) four

6. The permissible variation of bus bar RE voltage is within _________ (b)
   (a) +10% to ï 10%
   (b) +10% to ï 5%
   (c) +5% to ï 10%
   (d) +5% to ï 5%

7. Emergency telephone socket boxes are provided along the track at an interval of (d)
   - (a) 0.5 to 0.75 km
   - (b) 0.25 to 0.5km
   - (c) 1 to 1.5 km
   - (d) 0.75 to 1 km

8. By plugging the portable telephone into an emergency socket it is possible to communicate with the (a)
   - (a) TPC.
   - (b) Station SM
   - (c) Test Room
   - (d) Controler

9. Power for traction is tapped from different phases at adjacent substations in cyclic order(a)
   - (a) To minimize imbalance
   - (b) To improve the voltage
   - (c) To improve PF
   - (d) To minimise power loss

10. Electrical separation is achieved by providing _________ (a)
    - (a) Neutral Sections
    - (b) SSP
    - (c) AT
    - (d) TSS

11. These are situated approximately midway between two TSS (b)
    - (a) SSP
    - (b) SP
    - (c) AT
    - (d) STAGGERING

12. Neutral section is provided to avoid _________ of two different phases (c)
    - (a) staggering
    - (b) switching
    - (c) bridging
    - (d) anchoring

13. SSP facilitates maintenance and rapid isolation of OHE faults. (a)
    - (a) maintenance and rapid isolation
    - (b) switching
    - (c) bridging
    - (d) staggering

14. A stranded Cadmium Copper wire of about _____ sq.mm cross-section used for catenary (c)
    (a) 100 sq.mm
    (b) 150 sq.mm
    (c) 65 sq.mm
    (d) 50 sq.mm

15. A stranded Aluminium alloy wire of about ____ sq.mm cross-section used for catenary (a)
    (a) 115 sq.mm
    (b) 150 sq.mm
    (c) 65 sq.mm
    (d) 50 sq.mm

16. A grooved hard drawn Copper contact wire of 150 sq. mm wire is used to cater for higher catenary current in new works (b)
    (a) 115 sq.mm
    (b) 150 sq.mm
    (c) 65 sq.mm
    (d) 50 sq.mm

17. The contact wire is supported from the catenary by means of droppers _________ (a)
    (a) droppers
    (b) insulators
    (c) clips
    (d) ties

18. OHE with automatic tensioning is called _________ OHE. (a)
    (a) Regulated
    (b) Un Regulated
    (c) automatic tensioning
    (d) Normal

19. The normal height of contact wire for regulated OHE is 5.55 m above rail level (a)
    (a) 5,5 Mtrs
    (b) 7.5 Mtrs
    (c) 6.5 Mtrs
    (d) 6 Mtrs

20. On straight tracks, the catenary system is normally supported at maximum intervals of __________ m for BG (d)
    (a) 50 Mtrs
    (b) 65 Mtrs
    (c) 55 Mtrs
    (d) 72 Mtrs

21. On curvatured tracks, the catenary system is normally supported at minimum intervals of __________ m for BG (d)
    - (a) 20 Mtrs
    - (b) 35 Mtrs
    - (c) 55 Mtrs
    - (d) 27 Mtrs

22. The contact wire is "Staggered" so that it ensures a _________ (b)
    - (a) uniform wear & tear of the contact wire.
    - (b) uniform wear & tear of the pantographs.
    - (c) uniform wear & tear of the catenary wire.
    - (d) proper contact of pantograph with contact wire .

23. Providing of catenary wire along with contact wire to ensure (d)
    - (a) traction return current though it.
    - (b) Strengthening of conductivity.
    - (c) Less voltage drop.
    - (d) Constant hight of contact wire w.r.to rail .

24. The OHE conductors are terminated at intervals of about 1.5 KM to 2.0 KM with _________ anchored (a)
    - (a) anchored.
    - (b) isolated.
    - (c) Staggered
    - (d) neutralised.

25. ________________ are provided at all the signalling and operationally essential lighting installations (a)
    - (a) Auxiliary transformers
    - (b) Sub sectioning posts
    - (c) Sectioning posts
    - (d) TSS.

26. Auxiliary transformers are to supply ac at __________ (d)
    - (a) 240 V, 60 Hz.
    - (b) 1100 V, 50 Hz.
    - (c) 2200 V, 50 Hz
    - (d) 240 V, 50 Hz.

27. Auxiliary transformers (AT) is made available to ensure reliable supply for Level crossings located at a distance of more than 2 km from Railway Station (b)
    - (a) less than 2 km from Railway Station
    - (b) more than 2 km from Railway Station
    - (c) at 2 km from Railway Station
    - (d) more than 1 km from Railway Station

28. For collecting power from 25 KV AC contact wire pantographs are provided with _________ In order to improve the life of the contact wire (a)

    (a) carbon strips

    (b) silver strips

    (c) brass strips

    (d) copper strips

29. To indicate to the driver that he is approaching a neutral section two warning boards at a distance of (b)

    (a) 500 m and 250 m in rear

    (b) 500 m and 250 m in advance

    (c) 500 m and 1000 m in rear

    (d) 500 m and 1000 m in advance

Chapter-2 : Signal Clearance And Visibility

1. In the vicinity of high voltage conductors, a minimum electrical clearance is required to be provided to safeguard against (c)

   (a) flashing

   (b) arcing

   (c) flashing/arcing

   (d) Conducting

2. Vertical clearance between any live part of OHE or Pantograph and part of any fixed structure (a)

   (a) 320 mm.

   (b) 270 mm.

   (c) 220 mm.

   (d) 300 mm.

3. Vertical clearance between any live part of OHE or Pantograph and part of moving load (b)

   (a) 320 mm.

   (b) 270 mm.

   (c) 220 mm.

   (d) 300 mm.

4. Lateral clearance between any live part of OHE or Pantograph and part of any fixed structure (a)

   (a) 320 mm.

   (b) 270 mm.

   (c) 220 mm.

   (d) 300 mm.

5. Lateral clearance between any live part of OHE or Pantograph and part of moving load (c)

   (a) 320 mm.

   (b) 270 mm.

   (c) 220 mm.

   (d) 300 mm.

6. Under no circumstances, a signal post or any of its fittings must be allowed to infringe _________ (b)

   (a) Outside un-shaded portion

   (b) in the un-shaded portion

   (c) arcing zone

   (d) plashing zone

7. When the signals have to be so located that they infringe, in to the shaded area (c)

   (a) Warning board to be provided (b) Wire mesh without earth

   (c) Wire mesh with earth (d) Earhing of Signal post

8. In case of signals located above the contact wire and provided with the iron screen it is necessary to connect them to the earth with earth resistance not exceeding _________ Ohms (b)
   (a) 100 Ohms
   (b) 10 Ohms
   (c) 5 Ohms
   (d) 2 Ohms

9. The screen shall be provided on the side adjacent to the catenary and for a signal post between two wired tracks _________ (a)
   (a) a screen on either side of the post will be required
   (b) a screen any one side of the post will be required
   (c) a screen on neither side of the post required
   (d) its a option

10. The distance between the signal and the mast in front of it must be __________ (b)
    (a) Less than 30 metres.
    (b) more than 30 metres.
    (c) Less than 10 metres.
    (d) more than 10 metres.

11. It is not desirable to locate a signal closer than __________ from the mast behind it. (d)
    (a) 50 metres.
    (b) 40 metres.
    (c) 20 metres.
    (d) 10 metres.

12. The distance from centre line of track to the nearest part of the masts is normally _________. This is called normal implantation or normal setting distance. (b)
    (a) 2 metres.
    (b) 2.5 metres.
    (c) 3 metres.
    (d) 3.5 metres.

13. The nearest part of the signal post from the centre line of track shall be _________ (c)
    (a) 2 metres.
    (b) 2.55 metres.
    (c) 2.844 metres.
    (d) 3.58 metres.

14. RDSO have recommended the setting distances/extra implantation of the masts in front of the signal MACLS without Route Indicator for a visibility of ____ on a tangent track. (b)
    (a) 500 metres.
    (b) 600 metres.
    (c) 650 metres.
    (d) 1000 metres.

15. RDSO have recommended the setting distances/extra implantation of the masts in front of the signal MACLS without Route Indicator for a visibility of ____ on a tangent track. (d)
    (a) 500 metres.
    (b) 600 metres.
    (c) 650 metres.
    (d) 1000 metres.

16. RDSO have recommended the setting distances/extra implantation of the masts in front of the signal MACLS with route indicator with horizontal arm for a visibility of ______. (b)
    (a) 500 metres.
    (b) 600 metres.
    (c) 650 metres.
    (d) 1000 metres.

17. RDSO have recommended the setting distances/extra implantation of the masts in front of the signal MACLS with route indicator without horizontal arm for a visibility of _____ (b)
    (a) 500 metres.
    (b) 600 metres.
    (c) 650 metres.
    (d) 1000 metres.

18. Signal units are generally so fixed that the height of the centre line of the red signal is _________ above rail level (c)
    (a) 4.35 metres.
    (b) 3.85 metres.
    (c) 3.65 metres.
    (d) 5.2 metres.

19. No part of a signal without route indicator shall normally be higher than _________ above rail level. (d)
    (a) 4.35 metres.
    (b) 3.85 metres.
    (c) 3.65 metres.
    (d) 5.2 metres.

20. For implantation no masts shall be provided for at least _________ spans in front of the signal. (b)
    (a) 4
    (b) 3
    (c) 2
    (d) 1

Chapter 3 – Protection of Operating and S&T Staff

1. Traction return currents pass through _________ (c)
   (a) Catenary
   (b) Separate cable
   (c) Rails
   (d) Direct Earth

2. The rods and wires in AC Electrified areas do carry a certain amount of _________ (c)
   (a) induced Current
   (b) induced voltage
   (c) induced voltage and current
   (d) No induced voltage and current

3. To protect the Operating and S&T staff from the effects of the voltages the rod runs and wires are (a)
   (a) provided with insulations.
   (b) provided with metal paint.
   (c) provided with warning
   (d) provided with normal arrangement

4. Each rod shall be provided with an insulator in the lead-out as close to the cabin as possible. (a)
   (a) as close to the cabin
   (b) as away from the cabin
   (c) as middle to the cabin
   (d) as any where to the cabin

5. Providing rod and wire insulator, it must be ensured that (b)
   (a) contact between the insulated and un insulator
   (b) no contact between the insulated and un insulator
   (c) contact between two insulated
   (d) contact between two un insulator

6. An additional insulator shall be provided between the last adjustable crank and the point/lock bar (b)
   (a) The purpose to provide the adjustment to the run of rods
   (b) The purpose to prevent the rail voltage being passed on to the run of rods
   (c) The purpose to prevent the corrosion of rods
   (d) The purpose to provide strength to the run of rods

7. If the rod transmission is more than 300 metres, __________ shall be provided on each rod at every 300 metres (c)
   (a) additional warning board
   (b) additional adjustable crank
   (c) additional insulators
   (d) additional compensator

8. If the rod transmission is more than __________ metres, additional insulators shall be provided on each rod at every 300 metres (c)
   (a) 200
   (b) 400
   (c) 300
   (d) 250

9. The distance between the insulators and the adjacent rod roller guide shall be __________ to permit the normal movement of the rod (d)
   (a) Very close
   (b) 1 Mtr
   (c) 2 Mtrs
   (d) adequate

10. Since the normal stroke is 200 mm, the insulation shall be at least __________ mm from the rod roller guide (a)
    (a) 305
    (b) 310
    (c) 300
    (d) 200

11. In case there is a large number of rodding in the same alignment, the insulated joints shall be provided on each rod run between the. (a)
    (a) same sets of rod roller guides
    (b) different sets of rod roller guides
    (c) two no. of staggering of roller guides
    (d) three no. of staggering of roller guides

12. The insulations shall be staggered so that the distance between the insulated joints of the two neighbouring rods shall not be less than __________ mm (a)
    (a) 305
    (b) 310
    (c) 300
    (d) 200

13. For rod running under the track, the top of the rod shall not be less than __________ mm below the bottom of the rail (b)
    (a) 20
    (b) 40
    (c) 30
    (d) 34

14. The distance between any OHE mast & the point rod shall not be less than _____ mm (b)
    (a) 20
    (b) 40
    (c) 30
    (d) 34

15. The wire insulator shall be provided on each wire as close to the cabin as possible. It is advisable to provide the insulator inside the cabin. (b)
    (a) To avoid theft.
    (b) is not exposed to sun and rain directly.
    (c) For easy of maintenance.
    (d) For better conduction.

16. An insulator shall be provided in each wire __________ the gear of operation (a)
    (a) Near.
    (b) At Starting to.
    (c) Middle to.
    (d) Any place to

17. All insulators shall be provided between __________ supporting brackets. (b)
    (a) between three consecutive stakes or pulleys
    (b) between two consecutive stakes or pulleys
    (c) between four consecutive stakes or pulleys
    (d) between six consecutive stakes or pulleys

18. The horizontal distance between two wires shall not be less than __________ mm. (b)
    (a) 20
    (b) 50
    (c) 30
    (d) 34

19. The vertical distance between two wires shall not be less than __________ mm. (d)
    (a) 305
    (b) 310
    (c) 300
    (d) 200

20. A minimum distance of __________ mm shall be maintained between the wire and the nearest edge of the rail or mast (b)
    (a) 20
    (b) 40
    (c) 30
    (d) 34

Chapter 4 : Earthing arrangements in RE Area

1. To afford safety to the operating and maintenance personnel against electric shock. (c)
   (a) Provide safety precaution
   (b) Provide insulated gears
   (c) Provide proper earthing to metal gears and safety precaution
   (d) Avoid staff operating the gears

2. Dangerous (voltage) potential appearing on the exposed parts with respect to earth due to (c)
   (a) electromagnetic induction
   (b) electrostatic induction
   (c) electromagnetic or electrostatic induction
   (d) Proper earthing

3. To ensure reliable and safe operation of the equipment by limiting or eliminating the ___________ signal and Block circuits. (a)
   (a) induced voltages in
   (b) earthing of
   (c) increasing length of parallelism
   (d) introducing more metallic gears in

4. Block filter earthing and earthing of metallic cable sheath and armour are examples of this type of earthing (d)
   (a) increasing length of parallelism
   (b) introducing more metallic gears in
   (c) separation from earthing
   (d) limiting or eliminating the induced voltages

5. Equipment against build up of unduly high, voltages this can cause dielectric (____________) breakdown (a)
   (a) dielectric (Insulation) breakdown
   (b) dielectric (conductor) breakdown
   (c) dielectric (Earthing) breakdown
   (d) dielectric (metallic body) breakdown

6. Dielectric (Insulation) breakdown can occur mostly due to the _______ and lightning (b)
   (a) earthing
   (b) physical contact of 25 KV with Track
   (c) increasing length of parallelism
   (d) introducing more metallic gears in

7. The lever frame and other metallic frames of the cabin ___________ (b)
   - (a) No earthing is required
   - (b) shall be connected together to a separate earthing
   - (c) shall be connected separate to a separate earthing
   - (d) shall be connected together to a block earthing

8. Metallic sheath and armouring of all underground cables (a)
   - (a) to be earthing both ends
   - (b) not to be earthed
   - (c) Earthing is option
   - (d) to be earthing any one ends

9. In case of signals falling within 2 meters from the live parts of the OHE, the protection screen shall be connected (d)
   - (a) to the +ve Rails
   - (b) to the -ve Rails
   - (c) to the Both Rails
   - (d) to earth

10. The resistance of an earth shall not exceed ___________ ohms. Where a number of cables are run together (c)
    - (a) 2
    - (b) 4
    - (c) 10
    - (d) 5

Chapter 5 : Laying of Signalling Cables

1. In the vicinity of 25KV AC OHE, ___________ permitted to be used as they are subjected to induction (b)

   (a) aerial lines are (b) No aerial lines are

   (c) No underground cable are (d) No MW comm. allowed

2. The main cables on AC electrified sections shall ordinarily be ___________ cable (d)

   (a) PVC insulated
   (b) Armoured
   (c) aerial lines
   (d) PVC insulated and armoured

3. Paper insulated lead sheathed and armoured cables were earlier used but have since been discontinued in view of (c)

   (a) special jointing are requirements
   (b) special terminating requirements
   (c) special jointing and terminating requirements
   (d) Not to RE standards

4. Paper insulated Lead Sheathed (PILC) cables Failures on account of ___________ resulting in low insulation (a)

   (a) ingress of moisture
   (b) Improper Earthing
   (c) Electro Magnetic induction
   (d) Electro Static induction

5. Insulation resistance of each core shall not be _______ at 500C as per IRS: S 63-89. (d)

   (a) more than 5.0 mega ohms/km
   (b) less than 5.0 K. ohms/km
   (c) more than 5.0 K. ohms/km
   (d) less than 5.0 mega ohms/km

6. The use of screened cables was discontinued owing to practical reasons involving ________ (c)

   (a) realisable earthing effect
   (b) realisable cost effect
   (c) realisable screening effect
   (d) realisable induction effect

7. As per extant instructions, ___________ shall be used for carrying signalling circuits. (a)

   (a) only PVC insulated, sheathed, armoured unscreened cable
   (b) only PVC insulated, sheathed, armoured screened cable
   (c) only PVC sheathed, armoured unscreened cable
   (d) only PVC insulated, armoured unscreened cable

8. Screened signalling cable may be used in cases of signalling installations where _________ its further use (a)

   (a) screened cable is already in use

   (b) screened cable is already in use site conditions demand

   (c) site conditions demand

   (d) lightening is more

9. The cables laid parallel to the track shall normally be buried at a depth of ________ (c)

   (a) 0.50 m

   (b) 0.60 m

   (c) 0.80 m

   (d) 1.00 m

10. The cables laid across the track must be at a depth of ___________ Below the bottom of the rail. (d)

    (a) 0.50 m

    (b) 0.60 m

    (c) 0.80 m

    (d) 1.00 m

11. in case of rocky soil, the depth of main cable may be reduced to ___________ (a)

    (a) 0.50 m

    (b) 0.20 m

    (c) 0.30 m

    (d) 0.10 m

12. The depth of tail cables, which serve the track apparatus, shall not be less than ____ (a)

    (a) 0.50 m

    (b) 0.20 m

    (c) 0.30 m

    (d) 0.10 m

13. The cable shall be so laid that it is not less than ___________ from the nearest edge of the mast supporting the catenary or any other live conductor. (d)

    (a) 3.00 m

    (b) 2.00 m

    (c) 2.00 m

    (d) 1.00 m

14. When the cable is laid at a depth greater than 0.5 m, a min distance of ___________ between the cable and the nearest edge of the OHE structure shall be maintained (a)

    (a) 3.00 m

    (b) 2.00 m

    (c) 2.00 m

    (d) 1.00 m

15. The depth of the cable does not exceed ___________ if the distance between the cable and OHE structure is Less than 3 mtr (a)
    (a) 0.50 m
    (b) 0.60 m
    (c) 0.80 m
    (d) 1.00 m

16. If it is difficult to maintain distances between the cable and OHE structure the cable shall be laid in concrete/heavy duty HDPE/Ducts or any other approved means for a distance of ___________ on either side of the mast (a)
    (a) 3.00 m
    (b) 2.00 m
    (c) 2.00 m
    (d) 1.00 m

17. the cable laid in concrete/heavy duty HDPE/Ducts or any other approved means for a distance of 3 m on either side of the mast the distance between the cable and the mast may be reduced to ___________ (c)
    (a) 0.80 m
    (b) 0.60 m
    (c) 0.50 m
    (d) 1.00 m

18. In the vicinity of TSS, the cables shall be laid at least ___________ away from any metallic body of the substation (d)
    (a) 0.80 m
    (b) 0.60 m
    (c) 0.50 m
    (d) 1.00 m

19. In the vicinity of TSS, the cables shall be laid _____ away from the substation earth (d)
    (a) 0.80 m
    (b) 0.60 m
    (c) 0.50 m
    (d) 1.00 m

20. In the vicinity of TSS The cables shall therefore be laid in concrete pipes or enclosed brick channels for a length of ___________ on either side of the sub-station (c)
    (a) 100 m
    (b) 200 m
    (c) 300 m
    (d) 400 m

21. In the vicinity of TSS As far as possible, the cables shall be laid ___________ to the sub-station side. (b)
    (a) on the side of the track same
    (b) on the side of the track opposite
    (c) in between the track
    (d) Close to the TSS

22. In the vicinity of the switching stations the cables shall be laid at least ___________ metre away from any metallic body of the station which is fixed in the ground. (d)
    (a) 0.80 m
    (b) 0.60 m
    (c) 0.50 m
    (d) 1.00 m

23. In the vicinity of the switching stations the cables shall be laid at least ___________ away from the switching station earthing. (d)
    (a) 3.00 m
    (b) 2.00 m
    (c) 4.00 m
    (d) 5.00 m

24. by laying the cables through a concrete pipes In the vicinity of the switching station earting the distance can be reduced to ___________ (a)
    (a) 1.00 m
    (b) 2.00 m
    (c) 4.00 m
    (d) 5.00 m

25. When more than one cable is laid and the sheath and armouring of each cable is ___________, the screening improves, thereby reducing induced voltages (a)
    (a) separately earthed
    (b) earthed together
    (c) isolated from earth
    (d) connected to +ve Rail

26. When ___________ cables are laid in the same trench, a distance of 100mm is to be maintained between them (b)
    (a) signalling main and tail cables
    (b) signalling and telecom cables
    (c) signalling and LT or HT power cables
    (d) telecom and tail cables

27. When ___________ cables are laid in the same trench, they must be separated by a row of bricks between them. (c)

    (a) signalling main and tail cables
    (b) signalling and telecom cables
    (c) signalling and LT or HT power cables
    (d) telecom and tail cables

28. For recognising different cables in same trench the cables shall be laid in an order from top (b)

    (a) Telecom, HT, bricks, signal, LT. cable
    (b) Telecom, signal, bricks, LT,HT. cable
    (c) Telecom, bricks ,signal,, LT,HT. cable
    (d) signal, bricks, LT, Telecom, HT. cable

29. When _________ are laid in separate trench and are running parallel, a minimum horizontal distance of 0.50 m (a)

    (a) HT or LT power and signalling cables
    (b) signalling and Telecom cables
    (c) Telecom and signalling cables
    (d) HT and LT power cables

30. When HT or LT power cables and signalling cables are laid in separate trench _________ a minimum distance of 0.20 metres shall be maintained. (b)

    (a) On fat forms
    (b) On track crossings
    (c) On bridges
    (d) On culverts

31. During track crossings The cables should cross the track ___________ (b)

    (a) Parallel to the track
    (b) at right angles
    (c) at angle of 45º
    (d) ZIG Zag to the track

32. The cables should cross the track under ___________ (c)

    (a) points and crossings
    (b) bridges
    (c) plain track where no points and crossings
    (d) any place

33. The cables are to be laid in ___________ while crossing the track (a)

    (a) concrete pipes
    (b) GI pipe
    (c) HDFC Pipes
    (d) PVC Pipe

34. The ___________ of the cable trench shall be normally 0.46 metre (c)
    (a) Depth
    (b) Length
    (c) width
    (d) Size

35. The bottom of the cable trench In case, the ground is rocky, the cable shall be laid on a layer of _________ of 50mm thickness deposited at the bottom of the trench (c)
    (a) River Sand
    (b) Sea Sand
    (c) Coal
    (d) Metal stone

36. When cables have to cross a metallic bridge, they shall be placed inside a _________ withstand 6000 V AC (a)
    (a) GI trough filled with sealing compound suitable to
    (b) RCC Pipes
    (c) GI PIPES
    (d) HDFC

37. _________ the cables shall be laid at a distance of 8 to 10 metres from the centre of the nearest track (c)
    (a) Within the station limits
    (b) Outside Block section
    (c) Outside station limits
    (d) Station and Block section limits

38. _________ where there are no OHE masts along the route of the cable, the trenches shall preferably be dug at a distance of 3 metres from the centre of track. (a)
    (a) Within the station limits
    (b) Outside Block section
    (c) Outside station limits
    (d) Station and Block section limits

39. _________ when there are OHE masts along the route of the cable, the trenches shall be dug at a distance of not less than 5.5 metres from the centre of the track. (a)
    (a) Within the station limits
    (b) Outside Block section
    (c) Outside station limits
    (d) Station and Block section limits

40. Trenches shall be dug, cables laid and refilling done _________ (c)
    (a) Within one week
    (b) Within 10 days
    (c) on the same day
    (d) as per site condition

41. During excavation, the soil of the trenches shall be thrown _________ (b)
    (a) on the ballast
    (b) away from the ballast
    (c) In side of track
    (d) In between up and Down Track

42. In the case of track crossings, the work shall be done in the presence _________ (d)
    (a) ASTE
    (b) Sr.DSTE
    (c) RPF
    (d) JE/SSE P way

43. The cabling work shall be supervised at site personally by an official of S&T department not below the rank of (d)
    (a) ASTE
    (b) Sr.DSTE
    (c) SSE/Sig
    (d) JE/Sig

Chapter 6 : Block Instruments & Circuits

1. The block circuits shall he transferred to __________ in RE area (a)
   (a) underground cables
   (b) areal lines
   (c) MW
   (d) Wan Network

2. Since block circuits are safety circuits, __________ shall be provided for block circuits in RE area (a)
   a. special P.V.C. insulated quads
   b. underground cables
   c. aerial lines
   d. underground Un Screened cables

3. A __________ is provided for each pair of block quad (c)
   a. Circuit Breaker
   b. Earthing
   c. transformer
   d. Condenser

4. The pairs are used through the transformers for __________ circuits (d)
   a. block telephones
   b. block bell
   c. block Instrument
   d. block telephones and block bell

5. For block circuits, which work on DC, __________ used and so direct connection through the cables (b)
   a. transformers can be
   b. transformers cannot be
   c. SPD can be
   d. Condensers in series

6. To ______ cable conductors, the phantoms of each pair is used for the block circuit (c)
   a. Improve insulation of
   b. Reliable service of
   c. economise on
   d. avoid noise in

7. Protective devices shall be provided __________ for protection of the instruments as well as the staff operating them (d)
   a. as per site condition
   b. at one end of the block circuit
   c. as an option
   d. at either end of the block circuit

8. The principal protective device used is called __________ For block working (c)
    a. phantoms circuit
    b. Isolation T/F
    c. Block Filter
    d. Condenser

9. The filter unit consists of __________ connected across the junction (b)
    a. four chokes with Four condensers
    b. four chokes with two condensers
    c. Two chokes with two condensers
    d. Two chokes with Four condensers

10. When OFC, Radio or other communication means are used for block working _________ of approved design shall be used (d)
    a. Block panel
    b. SSDAC
    c. BPAC
    d. UFSBI

11. UFSBI equipment always __________ block instruments (c)
    a. in centre of Block section
    b. Away from the
    c. be close to the
    d. Keep At LSS or Home for

12. In case the distance between UFSBI and block instrument is more than 500 metres ______ shall be inserted (c)
    a. SPD
    b. Isolation T/F
    c. block filter
    d. RE Cutting

13. When a block section originates at a station in electrified area and terminates at a station in non-electrified area, filters __________ of such block section (a)
    a. shall be provided at both ends
    b. shall be provided at one ends
    c. are not required
    d. are option

Chapter 7 : Stray Currents

1. Natural currents are found to be flowing in the soil in most parts of the world especially in _______ (b)

   a. Black Soils

   b. rocky Soils

   c. Hills area

   d. sea shores

2. It is necessary that stray current tests be carried out to ensure that _______ do not operate with stray currents (a)

   a. DC track relays

   b. Point operating relays

   c. Block operating relays

   d. Point operating relays

3. For measuring the stray current test are to be carried out only on _______ (d)

   a. Station sections

   b. Block sections

   c. Electrified Areas

   d. Non-electrified Areas

4. For measurement of stray voltage the resistance 'R' shall be equal to the resistance of the (b)

   a. Earth pit

   b. Track Relays

   c. Rails

   d. Ballast

5. For measurement of stray voltage, _______ as measured across the Resistance 'R' shall not exceed 100 mill volts. (c)

   a. Earth pit drop voltage

   b. Track Relays voltage

   c. Rail earth voltage

   d. Cable Voltage Drop

6. The total stray current as measured, shall not exceed 10 milliamps if the length of the track circuit is (a)

   a. less than 100 metres

   b. More than 100 metres

   c. less than 100 Khmers

   d. More than 100 K.metres

7. The total stray current as measured, shall not exceed 100 milliamps, if the length of the track circuit is. (b)

   a. less than 100 metres b. More than 100 metres

   c. less than 100 Khmers d. More than 100 K.metres

Chapter 8 : Alterations to Track Circuits

1. In a _______ only one rail is used for traction return current and the other rail is insulated for track circuiting (a)

   a. DC track circuit

   b. Audio Frequency track circuit

   c. Universal AXC

   d. Digital AXC

2. The rail, which is reserved for traction return current, is called the un insulated rail Any connection from the OHE mast or any other structure shall be made to the _____ only (a)

   a. un insulated rail

   b. insulated rail

   c. un insulated and insulated rail

   d. Near by S&T Location

3. When the track is shunted by a pair of wheels at the far end large alternating current can flow through ïve rail and producing a voltage drop of 10 volts per 90 metres across _______ at 250 Amps. (d)

   a. battery

   b. Charger

   c. +ve Rail

   d. Track Relay

4. There are two contemporary methods of A.C. immunisation, one employing a series _______ and the other inherently immunising the relay itself (c)

   a. battery

   b. Charger

   c. Choke

   d. Track repeater Relay

5. _______ has high A.C. impedance, and D.C. resistance of only few ohms which can easily be connected in series with the relay (c)

   a. battery

   b. Charger

   c. Choke

   d. Track Relay

6. _______ safe and reliable operation, could be maintained with max: 50 V A.C. across the relay and on this basis, a maximum length of 450 meters (c)

   a. Using A.C. immunised Track Repeater relays

   b. Choke

   c. Using A.C. immunised Track Relay

   d. Regulating Resistance of 0-30Ω

7. If the feed end and relay ends happen to be interchanged, then the _______ is required to be protected from the A.C. voltages. (a)
   a. battery
   b. Charger
   c. Choke
   d. Track Relay

8. At Feed end, transformer rectifier set alone should _______ (a)
   a. not be used
   b. be used
   c. Option
   d. be used with SPD and filters

9. The maximum length of track circuit is 450 m, if _______ are provided with a train shunt resistance (TSR) value of 0.5 ohm. (b)
   a. concrete sleepers
   b. wooden sleepers
   c. Iron sleeper
   d. concrete and wooden sleepers

10. D.C. single rail track circuit length shall not exceed 350 metres when _______ are used (RDSO's letter No. STS/EANS/SLP dated 18.10.1978) (a)
    a. concrete sleepers
    b. wooden sleepers
    c. Iron sleeper
    d. concrete and wooden sleepers

11. Transverse Bonding is provided by Electrical Department but the identification of the non-insulated rail is to be done _______ Department (c)
    a. Engineering
    b. OHE
    c. S and T
    d. Operating

12. In the event of a break in the _______ very heavy current will have flow through the track relay as well as the equipment to avoid this, the un-insulated rails of adjacent tracks shall be cross bonded at intervals of 100 metres. (a)
    a. un-insulated rail
    b. insulated rail
    c. un-insulated and insulated rail
    d. catenary

13. _______ shall be provided on the un-insulated rail at either end of the track circuit in case the track circuit is less than 100 metres (b)
    a. Transverse Bonding
    b. Cross Bonding
    c. Structural Bonding
    d. Longitudinal Bonding

14. Cross Bonding shall be provided on the _______ at either end of the track circuit in case the track circuit is less than 100 metres (a)

a. un-insulated rail
b. insulated rail
c. S & T Signal Post
d. Un insulated and insulated rail

15. On single line sections, beyond top Points For _______ an extra rail (scrap rail) will be laid by Engineering Department (b)

a. Transverse Bonding
b. Cross Bonding
c. Structural Bonding
d. Longitudinal Bonding

16. Structural Bonds provided to connect any metallic structure of _______ which is near by the side of track to un-insulated rail (b)

a. Engineering
b. OHE
c. S and T
d. Operating

17. Structural Bonds provided to connect any metallic structure of OHE which is near by the side of track to _______ rail (a)

a. un-insulated rail
b. insulated rail
c. S and T Sigg Post
d. un-insulated and insulated rail

18. Longitudinal bonding on the insulated rails of single track circuits shall be provided by _______ with Standard No.8 SWG, G.I. wire (c)

a. Engineering Department
b. Electrical Department
c. S and T Department
d. Operating Department

19. Longitudinal bonding on the Un-insulated rails of single track circuits shall be provided by ___________ (c)

a. Engineering Department
b. Electrical Department
c. S and T Department
d. Operating Department

20. The Cross Bonding, longitudinal bonding, transverse bonding, structural bonding and shunt bonding are done by _______. (b)

a. Engineering Department
b. Electrical Department
c. S and T Department
d. Operating Department

21. _______ has good immunity to 50Hz AC induced voltage or harmonics generated by thyristor controlled locos (a)

    a. AFTC track circuit

    b. AFTC and DC track circuit

    c. DC track circuit

    d. AC track circuit

Chapter 9 : Induction & It's Effects on Signalling

1. When a conductor carries current, there is a _______ around the conductor (d)
   a. EMF
   b. Static field
   c. magnetic field
   d. Static field, magnetic field and EMF

2. Any conductor linking with magnetic lines of force, has a _______ in it according to the well known "Faraday's Law of Electromagnetic Induction (a)
   a. voltage induced
   b. Static field
   c. magnetic field
   d. Static and magnetic field

3. The _______ emanates from the positive charge and ends at the negative charge unlike magnetic lines of force (b)
   a. electro-Magnetic static field
   b. electro-static field
   c. magnetic field
   d. Electro Static and magnetic field

4. The electro-static field emanates and any conductor that exists within the field will ____ (d)
   a. electro-Magnetic static field
   b. electro-static field
   c. magnetic field
   d. Get charged

5. The power conductor and the S&T conductor in the vicinity can be deemed to have small capacitance ____________ (b)
   a. to Centenary
   b. to earth and between themselves
   c. to earth only
   d. between themselves only

6. The magnitude of the capacitances depends on the _______ in RE area (b)
   a. physical separation conditions only
   b. physical separation and atmospheric conditions
   c. atmospheric conditions only
   d. cant say

7. The voltage induced electrostatic ally in an _______ situated at a distance of 10 metres from the track was calculated to be about 3000V If the parallelism of this line is 1 KM (a)
   a. an overhead
   b. Return Rail
   c. UG Signalling Cable
   d. UG Telecom Cable

8. The voltage induced electrostatic ally in an overhead if someone touch this line, a current of about _______ will flow through the body of the person (b)
   a. 4 amps
   b. 4 milliamps
   c. 10 milliamps
   d. 10 amps

9. If the value of the current is _______ or above, it would prove to be fatal to a person. (c)
   a. 4 amps
   b. 4 milliamps
   c. 15 milliamps
   d. 15 amps

10. Electro-static voltage can be eliminated by providing _______ between the catenary and the signal and telecommunication lines (b)
    a. an earthed metallic armour
    b. an earthed metallic screen
    c. an earthed cable cores
    d. an earthed power supply of trough cable

11. The best method to eliminate the electrostatic induction there shall be _______ in the vicinity of A.C. Electrified track. (c)
    a. aerial lines with earthed aerial post
    b. aerial lines only
    c. no aerial lines
    d. MW and Aerial lines

12. When the entire outward and return current is restricted to two conductors located physically close to each other, the induced voltage on a third conductor due to each one of these will ___________ (b)
    a. high
    b. very nearly zero
    c. low
    d. We cant say low are high

13. If there is no parallel path through the earth, the whole of the traction return current would flow in the rails throughout their length, the screening factor of the rails would have a _______ value (b)
    a. high
    b. low
    c. medium
    d. normal

14. The screening factor is ___________ near the vehicle and near the sub-station than elsewhere (b)

    a. higher

    b. lower

    c. medium

    d. Normal

15. The return current through the rails helps in reducing the induced voltage to some extent. This property of the rail current is defined as __________ (a)

    a. rail reduction factor

    b. screening factor

    c. Power factor

    d. safety factor

16. _______ is 0.56 in. the case of single track and 0.4 in the case of double track. (d)

    a. screening factor

    b. mutual screening factor

    c. safety factor

    d. rail reduction factor

17. The induced voltage in the core reduces considerably by using screened cables. The extent by which the induced voltage is reduced is called as ____________ (a)

    a. screening factor

    b. mutual screening factor

    c. safety factor

    d. rail reduction factor

18. _______ due to the presence of other cables and metallic objects is taken as 0.75 (b)

    a. screening factor

    b. mutual screening factor

    c. safety factor

    d. rail reduction factor

19. For calculating the induced voltages, the _______ current has been taken as 600 Amps. on Double line and 300 Amps on Single Line. (d)

    a. Cable load

    b. Rail return

    c. Loco

    d. catenary

20. The value of 35 _______ was finally used for S&T system design. A common design was adopted for single and double/multiple track electrified sections for screened cable (c)

    a. V/M DC

    b. V/KM DC

    c. V/KM AC

    d. V/M AC

21. The value of 87.5 _______ was finally used for S&T system design. A common design was adopted for single and double/multiple track electrified sections for un screened cable (c)
    a. V/M DC
    b. V/KM DC
    c. V/KM AC
    d. V/M AC
22. The maximum length of _______ that can run parallel to the track shall be 3.5 Km. for safe handling by staff (a)
    a. screened cable
    b. Un screened cable
    c. screened and unscreened cable
    d. Aerial lines
23. The maximum length of _______ that can run parallel to the track shall be 1.2 Km. for safe handling by staff (b)
    a. screened cable
    b. Un screened cable
    c. screened and unscreened cable
    d. Aerial lines
24. The lowest voltage at which glowing of the lamp occurs is called the _______ (c)
    a. Static Voltage
    b. saturated Voltage
    c. Glow Voltage
    d. AC Voltage
25. The __________ is found to be 2.3 volts for a signal lamp working on 12 volts. (b)
    a. Static Voltage
    b. Glow Voltage
    c. saturated Voltage
    d. AC Voltage
26. All equipment should, therefore, be capable of withstanding higher induced voltage. This safety margin is called ___________ (c)
    a. screening factor
    b. mutual screening factor
    c. factor of safety
    d. rail reduction factor
27. The _______ for signalling equipment used for line side circuit is prescribed as 2.5 times (c)
    a. screening factor
    b. mutual screening factor
    c. factor of safety
    d. rail reduction factor

28. The maximum length of direct feeding of signals shall not exceed _______ when screened cables are used. (a)

    a. 600 meters
    b. 240 Km
    c. 600 km
    d. 240 meters

29. The maximum length of direct feeding of signals shall not exceed _______ when un screened cables are used. (d)

    a. 600 meters
    b. 240 Km
    c. 600 km
    d. 240 meters

Chapter 10 : Personnel safety in 25KV RE Area

1.The size of the Caution Board shall be 225 mm x 200 mm indicating in Hindi, English and regional language in white letters with a red back ground provided at a height of 3 metres above ___________ (a)

a. Rail Level.

b. Ground level.

c. Ground and Rail level.

d. Ground or Rail level

2. The flow of return current in the rails will give rise to a __________ (c)

a. Rail Resistance.

b. Rail impedance.

c. Potential difference.

d. Ballast Resistance

3. Induction in Metallic Bodies situated close to _______ Equipment (a)

a. Overhead Electric.

b. Track Rail

c. Underground cables.

d. Aerial Lines

4. No work shall be done within a distance of two meters from the ________ of the O.H.E without a ópermit-to-work. (c)

a. mast

b. Earth pit.

c. Live parts

d. Anchor support

5. For work adjacent to overhead equipment the ________ shall apply to the proper authority sufficiently in advance for sanctioning the traffic and power block required (c)

a. SSE/JE Engg

b. Dy.SS.

c. SSE/JE Sigg

d. SSE/JE OHE

6. The Traction Power Controller through Traction Foreman will arrange to _________ the section concerned on the date and at the time specified in consultation with the Traffic Controller (d)

a. isolate

b. earth.

c. isolate or earth

d. isolate and earth

7. Use rubber gloves as far as possible or alternatively use _______. (d)

   a. Earth support

   b. isolate

   c. isolate and earth

   d. insulated rubber mats

8. Where a plastic sleeve cannot be provided as in the cases of tommy bars etc., the tools may be painted with insulating paint _________________ (c)

   a. at regular intervals of 2 to 3 days.

   b. at regular intervals of 2 to 3 weeks

   c. at regular intervals of 2 to 3 months.

   d. at regular intervals of 2 to 3 Years.

Chapter 11 : Evaluation & Upgradation of Existing System Design – Various parameters

1. Realisable screening factor of 0.4 can be achieved for a cable with Intrinsic Screening factor - _______ with earthing resistance of (b)
   a. 2 Ohms
   b. 0.2 Ohms
   c. 10 Ohms
   d. 1 Ohms

2. Due to anticipated increase in Traffic upgraded traction current on single line normal case. (a)
   a. 800Amps
   b. 6000Amps
   c. 1000Amps
   d. 8000Amps

3. Due to anticipated increase in Traffic upgraded traction current on single line Short circuit case. (b)
   a. 800Amps
   b. 6000Amps
   c. 1000Amps
   d. 8000Amps

4. Due to anticipated increase in Traffic upgraded traction current on Double line normal case. (c)
   a. 800Amps
   b. 6000Amps
   c. 1000Amps
   d. 8000Amps

5. Due to anticipated increase in Traffic upgraded traction current on Double line Short circuit case. (d)
   a. 800Amps
   b. 6000Amps
   c. 1000Amps
   d. 8000Amps

Chapter 12 : Induced Voltages due to Higher Catenary Currents

1. Resistance of __________ determines the realisable screening factor (a)
   a. Earthing
   b. Soil
   c. Rals
   d. Cables

2. Low __________ resistance is not always feasible the Signal Standards Committee came to the conclusion that use of Screened cable may be discarded and to adopt Unscreened Cable for revised design. (a)
   a. Earthing
   b. Soil
   c. Rals
   d. Cables

3. In ___________ The Induced Voltage with revised standard, has been calculated as 95 V/KM for Double Line 116V/KM for Single Line (b)
   a. screened with armouring earthed
   b. Unscreened with armouring earthed
   c. screened without armouring earthed
   d. un screened without armouring earthed

4. Track Cable Separation when both the rails are available for traction return current single line (b)
   a. 9m
   b. 8m
   c. 6m
   d. 4m

5. Track Cable Separation when both the rails are available for traction return current Double line (a)
   a. 9m
   b. 8m
   c. 6m
   d. 4m

6. Rail Reduction Factor when both the rails are available for traction return current Double line (a)
   a. 0.2666
   b. 0.3926
   c. 0.4
   d. 0.5

7. Rail Reduction Factor when both the rails are available for traction return current Single line (b)

   a. 0.2666

   b. 0.3926

   c. 0.4

   d. 0.5

8. Rail Impedance when both the rails are available for traction return current Double line (b)

   a. 0.701

   b. 0.561

   c. 0.2

   d. 0.3

9. Rail Impedance when both the rails are available for traction return current Single line (a)

   a. 0.701

   b. 0.561

   c. 0.2

   d. 0.3

Chapter 13 : Revised Design of Signalling System to Suit High Catenary Currents

1. __________ cables would be used and that the induced voltages have been calculated as 95V/KM for double line and 116V/KM for single line. as per the revised standards (a)
   a. unscreened
   b. unscreened and screened
   c. screened
   d. Normal

2. Unscreened cables would be used and that the induced voltages have been calculated as __________ for double line. as per the revised standards (a)
   a. 95 V/KM
   b. 35 V/KM
   c. 87.5 V/KM
   d. 116 V/KM

3. Unscreened cables would be used and that the induced voltages have been calculated as __________ for single line. as per the revised standards (d)
   a. 95V/KM
   b. 35V/KM
   c. 87.5V/KM
   d. 116V/KM

4. The maximum induced voltage which can safely be handled by maintenance staff as per the revised standards (d)
   a. 120 V
   b. 235 V
   c. 440 V
   d. 400 V

5. Block filters are provided to protect the equipment up to __________ A.C. (b)
   a. 120 V
   b. 600 V
   c. 440 V
   d. 400 V

6. If the induced voltage exceeds __________ the lightning arrestors to be provided on the line side of the block filter (c)
   a. 120 V
   b. 300 V
   c. 150 V
   d. 400 V

7. The Polarised Relays for block working currently in use, as per IRS-S.31-80 have an inherent A.C. immunity of __________ only (d)
   a. 120 V
   b. 300 V
   c. 50 V
   d. 10 V

8. As per the revised standards the max. length of parallelism of a power cable is _____ (c)
   a. 2.0 KM
   b. 2.4 KM
   c. 3.0 KM
   d. 2.6 KM

9. Block circuits are taken in Telecom Cables having an Intrinsic Screening factor of ____ (d)
   a. 2
   b. 1
   c. 3
   d. 0.1

10. Electrical Point Machine non-trailable type with this the maximum permissible distance between the machine and the contactor would be __________ (b)
   a. 2 KM
   b. 1.1 KM
   c. 1.3 KM
   d. 0.6 KM

11. Point Contactor type PPWR 1 of WSF make, which is planned for manufacture in India, has an immunity value of __________ (b)
   a. 2000 V
   b. 1000 V
   c. 500 V
   d. 750 V

12 QBAT relays can be used up to a maximum length of track circuit of __________ using one ‘B’type choke at the relay end (c)
   a. 350 mtrs
   b. 450 mtrs
   c. 750 mtrs
   d. 1000 mtrs

13. With 120 ohm. Impedance choke (3 ohm D.C. resistances) in series with the track relay, the length can be increased in single line with revised standards (b)
   a. 350 mtrs
   b. 450 mtrs
   c. 750 mtrs
   d. 1000 mtrs

14. With 120 ohm. Impedance choke (3 ohm D.C. resistances) in series with the track relay, the length can be increased in Double line with revised standards (b)
    a. 350 mtrs
    b. 450 mtrs
    c. 750 mtrs
    d. 1000 mtrs

15. With 120 ohm. Impedance choke 3 ohm D.C. resistances in series with the track relay, the length can be increased in single line with out revised standards (d)
    a. 350 mtrs
    b. 450 mtrs
    c. 300 mtrs
    d. 200 mtrs

16. With 120 ohm. Impedance choke 3 ohm D.C. resistances in series with the track relay, the length can be increased in Double line without revised standards (c)
    a. 350 mtrs
    b. 450 mtrs
    c. 300 mtrs
    d. 1000 mtrs

17. As per RDSO specification No.S24/90 - for Electrical Point Machine non-trailable type, specifies the A.C. immunity level of Electrical Point Machine shall (b)
    a. less than 160V RMS at 50 Hz
    b. more than 160V RMS at 50 Hz
    c. less than 110V RMS at 50 Hz
    d. more than 110V RMS at 50 Hz

18. AC. Immunity level of SIEMENS IC type Point machine is (c)
    a. 200V
    b. 300V
    c. 400V
    d. 500V

19. AC. Immunity level of SIEMENS IB type Point machine is (b)
    a. 200V
    b. 300V
    c. 400V
    d. 500V

20. AC. Immunity level of SIEMENS IA type Point machine is (a)
    a. 160V
    b. 300V
    c. 400V
    d. 500V

21 A.C. immunity level of Electrical Point Machine with 160V RMS at 50 Hz, the maximum permissible distance between the machine and the contactor would be (b)

a. 1000 mtrs

b. 1100 mtrs

c. 1200 mtrs

d. 1300 mtrs

22. M/s. CEERI - PILANI have developed solid state conversion units which are extensively used for A.C. locos. (b)

a. 3 phase to Single Phase

b. Single Phase to 3 phase

c. 3 phase to 3 phase

d. Single Phase to Single phase

23. __________ are provided to protect the Block equipments up to 600 V A.C. (a)

a. Block filters

b. Isolation T/F

c. SPDs

d. LDs

24. RDSO designed __________ has been subjected to 1000 Amps. catenary current on single line section (a)

a. Axle Counter

b. AFTC

c. EI

d. UFSBI

25. The maximum length of parallelism of a __________ is 2. 4 KM in order to restrict the effect of Induced voltage on the signal lamps (a)

a. power cable

b. Signalling cable

c. Quad cable

d. Tail cables

26. If the feed voltage of __________ increased to 300 V, the maximum permissible length for direct feed is also up to 2 KM (b)

a. power cable

b. Signal

c. Points

d. Tracks

27. Maximum permissible length of parallelism with factor of safety of 1.5 single line and Double line for Shelf Type AC Immunised (a)

a. 2.1KM/2.8 KM

b. 1KM/1.2 KM

c. 0.75KM/0.9 KM

d. 1.5KM/2.0 KM

28. Maximum permissible length of parallelism with factor of safety of 1.5 single line and Double line for QNA1 (a)

    a. 2.1KM/2.8 KM

    b. 1KM/1.2 KM

    c. 0.75KM/0.9 KM

    d. 1.5KM/2.0 KM

29. Maximum permissible length of parallelism with factor of safety of 1.5 single line and Double line for K-50 (B-1) (b)

    a. 2.1KM/2.8 KM

    b. 1KM/1.2 KM

    c. 0.75KM/0.9 KM

    d. 1.5KM/2.0 KM

30. Maximum permissible length of parallelism with factor of safety of 1.5 single line and Double line for K-50 (c)

    a. 2.1KM/2.8 KM

    b. 1KM/1.2 KM

    c. 0.75KM/0.9 KM

    d. 1.5KM/2.0 KM

Objectives

Chapter-1 : Rules Applying to Railway Servants Generally

1) Each railway servant shall be conversant with the rules related to.
   a) Pass rule.
   b) Income tax rule.
   c) Company rules.
   d) His duties.

ANSWERð D

2) Each railway servant shall promptly observe and obey the rules, special instruction given by.

a) Subordinate staff.

b) Relatives.

c) Superiors.

d) Friends.

ANSWER—C.

Evry railway servant shall see that every exertion is made for ensuring the safety of the.

a) Bus passengers.

b) Train passenger.

c) Railway employee.

d) Colleagues.

ANSWER---B

Every railway servant shall be conversant with the rules relating to his duties and if necessary he must explain to them.

Public.

Friends.

Relatives.

Staff working under him.

ANSWER---D

Every railway men satisfy himself that the staff working under him are conversant with the rules related.

Right to information

Right to expression.

Right to speak.

To his duties.

ANSWER--D

Every railway servant shall render assistance in carrying out various rules and report promptly to the.

Officer in charge, RPF.

Dy SS, station.

Immediate superior.

Enquiry office.

ANSWER--C

Every railway person is responsible for the security and protection of.

His own property,

Fellow employee property.

Railway property.

Passenger's property.

ANSWER--C

Railway servant shall endeavor (attempt) to prevent fire in.

Bus stand premises

Cricket stadium premises.

Railway premises.

Market premises.

ANSWER---C

Railway servant shall promptly obey the lawful orders given by.

Dy SS.

OC/RPF.

His parents.

His superiors.

ANSWER--D

Railway servant directly connected with the working of train shall not take alcohol.

Within 2 hrs before commencement of duty.

Within 4 hrs before commencement of duty.

Within 6 hrs before commencement of duty.

Within 8 hrs before commencement of duty.

ANSWER--D

Every railway servant should attend for duty.

a) Two hrs before.

b) One hr before.

c) 30 minutes before.

d) Be in time.

ANSWER--D

If any railway servant on duty desires to absent himself from duty, he shall immediately report to.

His colleague.

His parents.

His superior.

His subordinate.

ANSWER---C

Any railway servant who observes any unusual circumstances likely to interfere with the safe running of the trains shall be informed.

After the completion of the duty.

After reaching home.

After taking permission from supervisor.

Immediately.

ANSWER--D

Chapter-2 : Duties of Signal Technicians, Supervisors & Officers

1) Duties of signal technician.
   a) Efficient maintenance of signal gears.
   b) Attend failure promptly and rectify the same
   c) Obey the orders of superiors.
   d) A, B and C.

ANSWERð D

2) Signal technician shall carryout new works or alterations under the instruction of the

a) JE/SSE/P way.

b) JE/SSE/c &w.

c) JE/SSE/SIG

d) JE/SSE/Elec.

ANSWER—C

In case of any emergency that may be beyond his competency and control shall bring to the notice of.

a) Media.

b) Train passenger.

c) Railway employees.

d) Immediate superior.

ANSWER—D

The competency certificate issued under GR15.06 does not authorize signal technician to attend.

Track circuit failure.

Point failure.

Interlocking failure.

Telephone failure.

ANSWER—C

Duties of signal technician in case of locking failure.

Just wait till the JE/SSE arrives.

Open the locking tray and attend the failure.

Left the spot immediately.

Try to attend the failure without opening the locking cover.

ANSWER—D

Competency certificate issued by zonal training school to signal technician for.

One year.

Two years.

Three years.

Four years.

ANSWER--D

Zonal training school issues the competency certificate to the.

Technicians.

Je’s/se’s.

khalasi.

a) khalasi helper.

ANSWERð A

Testing of signaling gears are to be done periodically by.

Technician-III.

Technician-II.

Technician—I.

d) A, B and C.

ANSWERð D

Signal technician must possess a copy of the following books.

Signal engineering manual.

Gate working manual.

AC traction manual.

IRPWM manual.

ANSWER--A

Each SSE/JE shall submit an inspection and testing certificate in prescribed format to DSTE

Every month.

Once in two months.

Once in three months.

d) Once in six months

ANSWERð A

In charge SSE/JE’S shall certify that all the signals in his section have been inspected both by day and night once in a.

a) week.

b) Fortnight.

c) Quarterly.

d) Year.

ANSWER-C

All SSE'S/JE'S shall carry out FOOTPLATE inspection of all the signals by day and night once in a.

Week.

Month.

Quarterly.

Year.

ANSWER--B

Foot plate inspection should be submitted to the.

DSTE.

SSTE.

CSTE.

CSE.

ANSWER--A

Day FOOT PLATE inspection should be done during broad day light preferably between.

8hrs-----10hrs.

10hrs----12hrsI.

12hrs----14hrs.

d) 14hrs ----16hrs.

ANSWERð C

15) Night FOOT PLATE should be done between.

20hts---22hrs.

22hrs---00hrs.

00hrs---2hrs.

2hrs ----4hrs.

ANSWER--C

Joint foot plate shall be carry out quarterly by

PWI, LI, TI.

PWI, TI, SI.

SI, TI, LI.

d) SI, LI, SI.

ANSWERð C

The in charge SSE/JE should have the knowledge of establishment matters like.

a) Payment of wages act.

b) Pass rules.

c) Workmen's compensation act.

d) All A, B and C.

ANSWER-D

All receipts and issues of store material shall be entered in the register known as.

Daily material transaction registers.

Store material register.

Failure registers.

Store ledgers

ANSWER--A

Office records, stores, ledgers and accounts are maintained correctly by.

JE/section.

SSE/section.

SSE/ in charge.

SSE/headquarter.

ANSWER-C

As per Indian railway financial code para 219 codal life of signaling cable is

20yrs.

30yrs.

40yrs.

50yrs.

ANSWER--B

As per Indian railway financial code para 219 codal life of block instrument is.

10yrs.

15yrs.

20yrs.

a) 25yrs.

ANSWERð D

16) As per Indian railway financial code para 219 codal life of motor vehicle road or rail Motor trolley is.

a) 5yrs.
b) 7yrs.
c) 10yrs
d) 11yrs.

ANSWERð C

17) Signal sighting committee consisting of.

a) SIGNAL inspector, P/WAY inspector, and LOCO inspector.
b) P/WAY inspector, LOCO inspector, and TRAFFIC inspector.
c) P/WAY inspector, SIG inspector, and TRAFFIC inspector.
d) SIG inspector, TRAFFIC inspector, and LOCO inspector.

ANSWER--D

18) After completion of new work JE/SE/SSEóS shall submit a completion certificate to.

a) DSTE.
b) ASTE.
c) SSTE.
d) Dy SS.

ANSWERð A

19) All SSE/SE/JEóS shall posses the important books like.

a) GR & SR.
b) SEM.
c) SOD.
d) A, B, and C.

ANSWER-D

Chapter-3 : Signal Failures & Duties of Staff

1) In case of sig failure technician shall proceed by.

a) Passenger train only.

b) Goods train only.

c) Scooter or motorcycle only.

d) First available means.

ANSWERð D

2) After getting the failure information technician will attend the failure

a) Without taking the failure memo from SM.

b) Without issuing the disconnection memo for the sig gear.

c) Taking the relay room key without entering in the register.

d) After receiving the failure memo and issuing disconnection memo only

ANSWER— D

If failure is beyond the competency of technician shall bring to the notice of.

a) SSE.

b) DSTE.

c) Sr DSTE.

d) DRM.

ANSWER—A

After rectification of the failure other details are to be entered in the following register.

Failure registers.

Relay room key register.

Joint inspection register.

Complaint registers.

ANSWER—A

Supervisors after receiving the summary of failures at the end of month shall send to.

DSTE/Sr DSTE.

DOM/Sr DOM.

ADRM/DRM.

AEN/SrDEN.

ANSWER—A

In case of mid section gate barrier is get damaged SM on duty shall issue the caution order to.

Guard of a train.

Sectional PWI.

Sectional JE/SIG.

Driver of an approaching train.

ANSWER--D

When a signal is defective duties of station master is.

Immediately arrange the signal replaced to 'ON'.

Take the necessary action to receive or despatch the train.

Report the same to the concerned staff.

a) A, B, and C.

ANSWERð D

When a driver finds a gate stop signal is at 'ON'.

Driver stops his train at the foot of the signal.

Driver will proceed with train after waiting for a prescribed time.

Driver will proceed if he feels everything is ok.

a) Driver will proceed when he will get the signal.

ANSWER-B.

Gate signal in MACLS territory is to be located at a distance of.

120 mtrs.

180 mtrs.

200 mtra.

400 mtrs.

ANSWER—B

Every gate signal is to be provided with the marker in absolute block system.

'A' marker.

'G' marker.

'C' marker.

d) ôPô marker.

ANSWERð B

11) A driver shall pass IBS signal at ôONô

a) If he feels everything is ok.

b) He can pass the signal after talking to the guard.

c) He can start his train after talking to the station master of rear station

d) He can start his train after talking to the station master of ahead station.

ANSWER-C

While passing the IBS signal at 'ON' in night time.

Driver shall not exceed the speed of the train by 8 kmph.

Driver shall not exceed the speed of the train by 10 kmph.

Driver shall not exceed the speed of the train by 15 kmph.

Driver shall not exceed the speed of the train by 208 kmph.

ANSWER-A

When IB signal fails SM of the rear station treat the entire section up to the block station ahead of IB signal as.

Absolute block system.

Automatic block system.

One train only system.

Pilot and guard system.

ANSWER--A

All artisan staff particularly signal technicians should be given refresher training once in.

A year.

Two years.

Three years.

d) Four years.

ANSWERð D

15) In the interval between disconnection and reconnection, if necessary trains can be passed.

By taking of a signal.

If SM assumes everything is ok.

If supervisor assumes nothing is wrong

After physically checking and locking the route by SM.

ANSWER--D

Replacement of lamps, fuses etc.can be carried out.

With the consent of SM on duty.

Without the consent of SM on duty.

Without disconnecting the gear.

d) Only after disconnecting the gear.

ANSWER-B

Testing of points, signals and interlocking of lever frame can be carried out.

a) With the consent of SM on duty.

b) Without the consent of SM on duty.

c) After issuing the disconnection to SM on duty.

d) Without issuing the disconnection to the SM on duty.

ANSWER- A

The relay room or cabin basement where relays and interlocking gears are kept shall be locked.

Single lock.

Two independent lock.

Single lock works on double key.

Both B and C.

ANSWER-D

Disconnection of pins of rodding runs crank compensator, interlocking frames which will lead to unsafe condition.

Disconnection is required.

Disconnection is not required.

Consent of SM is sufficient.

Consent of SM is also not required.

ANSWER—A

Cleaning of colour light signal inner lens and focusing of signal etc.

Disconnection is required.

Disconnection is not required.

Consent of SM is sufficient.

Consent of SM is also not required 20yrs.

ANSWER--D

21) The relay room is provided with double key one key is with signal staff and other one is with

Operating staff.

Commercial staff.

Engineering staff.

a) Electrical staff.

ANSWERð A

22) Every SM must records, promptly, correctly, and neatly all failures in the.

a) Signal failure book.
b) Signal history book.
c) Complaint registers.
d) Petty register.

ANSWERð A

23) Testing and measurement of wheel dip of outdoor equipment of axle counter.

a) Disconnection is required.

Disconnection is not required.

Consent of SM is sufficient.

b) Consent of SM is also not required.

ANSWERð C

24) Alteration of station master's slide control, station master's key locking boxes.

a) Disconnection is required.

Disconnection is not required.

Consent of SM is sufficient.

b) Consent of SM is also not required.

ANSWERð A

25) Opening of covers of block instrument for maintenance or making adjustment.

a) Disconnection is required.

Disconnection is not required.

Consent of SM is sufficient.

b) Consent of SM is also not required.

1) Schedule of dimensions revised in the following year.

a) 1998.

b) 2000.

c) 2002.

d) 2004.

ANSWERð D

2) The minimum distance between two adjacent track is.

a) 4.7 mtrs.

b) 5 mtrs.

c) 5.3 mtrs.

d) 5.5 mtrs

ANSWER— C

Schedule of dimensions formulated in the year.

a) 1905.

b) 1913.

c) 1915.

d) 1917.

ANSWER—B

The distance between the two adjacent lines.

1376 mm.

1478 mm.

5300 mm.

1676 mm.

ANSWER—D

The minimum clearance of check rail at level crossing gate.

41 mm.

44 mm

51 mm.

54 mm.

ANSWER—C

The maximum clearance of check rail at level crossing gate.

41 mm.

44 mm.

51 mm.

57 mm.

ANSWER--D

The minimum clearance of check rail in a curve.

24 mm.

30 mm.

40 mm.

a) 44 mm.

ANSWERð D

The minimum radius of any curve in the railway track.

170 mtrs.

175 mtrs.

180 mtrs.

a) 185 mtrs.

ANSWER-B

The maximum super elevation permitted in the BG track is.

120 mtrs.

165 mtrs.

200 mtra.

250 mtrs.

ANSWER—B

The recommended gradient in the station yard for new works.

1 in 200.

1 in 400.

1 in 800.

d) 1 in 1200.

ANSWERð D

11) The minimum clearance of rod transmission from nearest track centre.

a) 1850 mm.

b) 1905 mm.

c) 1950 mm

d) 1955 mm.

ANSWER-B

The schedule of dimensions based on requirement of 25 KV AC traction is prescribed in the version of.

1913.

1939.

1973.

1975.

ANSWER-C

While a vehicle pass over a track it oscillates side by side on track is known as.

Lurching motion.

Side by side motion.

Loose motion.

Fixed motion.

ANSWER--A

While a vehicle pass over at rack it oscillates up and dn on track is known as.

Lurching motion.

Bouncing motion.

Shuttling motion.

d) Spring motion.

ANSWERð B

Any new work which would infringe the schedule of dimensions cannot be carried out unless Prior sanction has been obtained from.

CSTE.

DRM.

CRS.

COM.

ANSWER--C

The minimum horizontal distance from centre of track to any structure except a platform in new works.

2130 mm.

2360 mm.

2366 mm.

d) 2630 mm.

ANSWER-B

Inside the guage face of a rail no gear or track fitting must project above rail level for a distance of.

a) 140 mm.

b) 150 mm.

c) 160 mm.

d) 170 mm.

ANSWER- A

Outside the guage face of a rail no gear or track fitting must prohect above rail level for a distance of.

200 mm.

210 mm.

219 mm.

229 mm.

ANSWER-D

No station yard should be constructed on a steeper grade than.

1 in 260.

1 in 300.

1 in 400.

1 in 1200.

ANSWER—A

The minimum clearance between toe of the open switch and stock rail for new works.

105 mm.

110 mm.

115 mm.

120 mm.

ANSWER--C

21) The minimum length of the tongue rail is.

3000 mm.

3660 mm.

3880 mm.

a) 4000 mm.

ANSWERð B

The minimum horizontal distance from centre of track to passenger platform coping.

1600 mm.

1650 mm.

1670 mm.

1700 mm.

ANSWER—C

The maximum horizontal clearance from centre of track to passenger platform coping.

1630 mm.

1680mm.

1700 mm.

1720 mm.

ANSWER--B

24) The maximum horizontal clearance from centre of track to passenger platform wall.

a) 1705 mm.

b) 1805 mm.

c) 1905 mm.

d) 1950 mm.

ANSWERð C

The distance between any live conductor and any earthed structure should not be less than when conductor is at rest.

a) 120 mm.

b) 190 mm.

c) 200 mm.

d) 320 mm.

ANSWER—D

The distance between any live conductor and any earthed structure should not be less than when conductor is not at rest

150 mm.

200 mm.

270 mm.

d) 300 mm.

ANSWERð C

27) The minimum projection of flange of new tyre measured from tread at 63.5 mm is.

a) 27 mm.

b) 27.5 mm.

c) 28 mm

d) 28.5 mm.

ANSWER-D

The maximum and minimum thickness of tyre flange should be measured at.

a) 13 mm.

b) 19 mm.

c) 21 mm.

d) 22 mm.

ANSWER-A

29) The maximum the height of the high level platform from rail level is.

a) 550 mm.

b) 700 mm.

c) 840 mm

d) 900 mm.

ANSWER-C

The maximum height of the low level platform from rail level is.

a) 300 mm.

b) 375 mm.

c) 400 mm.

d) 455 mm.

ANSWERð D

31) The maximum inter distant between two adjacent refuges in tunnels.

100 mtrs.

150 mtrs.

170 mtrs.

a) 200 mtrs.

ANSWERð A

32) The maximum inter distant between two adjacent refuges in bridges span of less than 100 mtrs.

100 mtrs.

150 mtrs.

170 mtrs.

a) 200 mtrs.

ANSWERð A

33) The maximum inter distant between two adjacent refuges in bridges with span more than 100mtrs.

100 mtrs.

150 mtrs.

170 mtrs.

a) A refuge over each pillar.

ANSWERð D

Chapter-5 : Drgs, Specs & Books of Ref

1) All plans shall be prepared in accordance with the instructions issued by the.

a) DSTE.
b) ADSTE.
c) SSTE.
d) CSTE.

ANSWERð D

2) Name which point should be shown in every signaling plan.

a) North point.

b) South point.

c) East point.

d) West point.

ANSWER— A

All tentative plans shall be signed by at least.

a) Junior scale.

b) Senior scale.

c) SAG.

d) HAG.

ANSWER—B

Tentative signal plan sent to division for comments should bear the legend.

Tentative for checking only.

Tentative for comment only.

Tentative for execution only.

tentative for approval only

ANSWER—B

All types of drawing may be available in.

Drawing paper.

Tracing paper.

Ferro print.

All ‘A’ ‘B ’and ‘c’.

ANSWER—D

The size of the ‘A’-4 size drawing sheet is.

210mm x 297mm.

297mm x 420mm.

420mm x 594mm

210mm x 420mm.

ANSWER--A

The size of the ‘A’-3 size drawing sheet is.

200mmx300mm.

210mmx420mm.

297mmx420mm.

a) 210mmx297.

ANSWERð C

The size of the ‘A’-2 size drawing sheet is.

a) 210mmx297mm.

b) 297mmx420mm.

c) 420mmx594mm

d) 210mmx420mm

ANSWER-C

The size of the ‘U’ size drawing sheet is.

120mmx any length.

165mmxany length.

200mmx any length.

297mmxany length.

ANSWER—D

How much margin is to be left on left hand side in a drawing sheet for binding.

15mm.

20mm.

30mm.

40mm.

ANSWER— C

11) In a bunch of 40 drawing sheet 1st sheet is numbered as.

a) Sh no-1 of 40

b) Sh no -1(40)

c) sh no-1/40.

d) sh no-1+40.

ANSWER-C

All drawing sheets shall be signed with.

Normal ink pen.

Gel pen.

Indelible ink pen.

Marker pen.

ANSWER-C

Signaling plan and locking tables shall be approved by.

ADSTE.

DSTE.

JAG &above.

CRB.

ANSWER--C

Locking diagram for lever frame having more than 50 levers shall be checked in full by.

ADSTE.

DSTE.

Sr TECHNICIAN.

d) Sr sec engineer.

ANSWERð A

ALL circuit diagram shall be approved & signed by

ASTE & above.

DSTE& above.

JAG& above.

SAG& above

ANSWER--C

Completion diagram shall be submitted by ASTE/DSTE of construction to the.

CSTE open line.

CSTE construction.

CSTE planning.

d) CSE.

ANSWER-B

In any relay interlocking installation relay contacts used shall be shown in.

a) Contact analysis chart..

b) Relay rack particular sheet.

c) Cable corage plan.

d) Cable route plan.

ANSWER- A

In any installation underground cable laying in the yard shall be shown in separate sheet as.

Cable corage plan.

Cable joint particulars.

Cable termination particulars.

Cable route plan.

ANSWER-D

In any signaling installation arrangement of power supply shall be shown in.

Relay rack particulars.

SIP.

Power distribution sheet.

Engineering plan.

ANSWER—C

If it is necessary to send tracing from one office to other it shall be rolled & inserted in.

Plastic pipe.

Aluminum pipe.

Cardboard cylinder.

Rcc pipe.

ANSWER--C

21) Indian railway standard drawing has been issued by.

CCRS.

DG/RDSO.

DG/POLICE.

a) DG/S&T.

ANSWERð B

IRS stands for.

Indian railway service.

Indian railway signaling.

Indian railway standard drawing.

Internal route section.

ANSWER—C

Each drawing number is either prefixed with letters 'SA' or letter 'S' here SA stands for.

South Africa.

Signal assembly.

Signal aspect.

South Asia.

ANSWER--B

drawing issued by RDSO to railways to offering their comments, the drawings together with the Comments are put up for discussion before SSC, the SSC stands for.

a) Signal sighting committee.

b) Signal shooting committee.

c) Signal standard committee.

d) Super specialty committee.

ANSWERð C

Director General RDSO issues the notification in connection with details of the new IRS specifications & drawings in every.

a) Month.

b) Quarter.

c) Half year.

d) Yearly.

ANSWER—B

28) The signaling plans, locking tables and selection tables are approved by.

a) ADSTE.

b) DSTE.

c) SSTE.

d) CSTE.

ANSWERð D

29) The signaling plans, locking tables and selection tables are approved by.

a) ADSTE.

b) DSTE.

c) Dy CSTE.

d) CSTE.

ANSWER—C

30) The type of block instrument is approved by.

a) DRM.

b) CRS.

c) Dy CSTE.

d) CSTE.

ANSWER--B

Chapter-6 : Layouts of Yards & Pway

1) The following guage are in use over Indian railways.
   a) Broad guage.
   b) Meter guage.
   c) Narrow guage.
   d) All A,B and C .

ANSWERð D

2) The main function of sleeper is.

a) To support the rails.

b) Keep to rails in correct guage.

c) Distribute the load from rails to ballast.

d) All of the above.

ANSWER— D

The sleeper density with maximum permissible speed and with high traffic density is.

a) 1310.

b) 1400.

c) 1560.

d) 1660.

ANSWER—D

In a PSC sleeper, PSC stands for.

Power sector cement.

Piyush sighania cement.

Prestressed concrete.

Poststressed concrete.

ANSWER—C

In BG section maximum speed up to 160kmph is permissible in.

‘A’ route.

‘B’ route.

‘C’ route.

‘D’ route.

ANSWER—A

The classification of routes is not applicable to.

Broad guage

Meter guage.

Narrow guage.

Suburbans.

ANSWER--C

The rail used in the route where traffic density is more than 20 GMT is.

90R rail.

52KG rail.

60KG rail.

a) 75KG rail.

ANSWERð C

The most commonly used rail in Indian railways is.

Bull headed rail.

Flat footed rail.

Single head rail.

a) Double headed rail.

ANSWER-B

The movement of rails due to moving loads or increased braking load is known as.

Crawling.

Creep.

Expansion.

Contraction.

ANSWER—B

Creep indicator to measure the amount of creep is to be provided at an interval of.

1 KM.

1.5 KM.

2 KM.

d) 2.5 KM.

ANSWERð A

11) The creep indicator at every 1KM is to be kept above the rail level by.

a) 15 mm.

b) 18 mm.

c) 20 mm.

d) 25 mm.

ANSWER-D

The maximum super elevation permitted in BG is.

50 mm.

135 mm.

165 mm.

185 mm.

ANSWER-C

The maximum super elevation permitted in MG is.

50 mm.

60 mm.

70 mm.

90 mm.

ANSWER--D

The maximum super elevation permitted in NG is.

50 mm.

65 mm.

70 mm.

95 mm.

ANSWER—B

The trains can run with higher speed in the crossing provided with.

1 in8.5.

1 in 12 straight switches.

1 in 12 curve switch.

1 in 16.

ANSWER--D

Engineering plan is an important plan issued by.

Chief engineer of zonal railway.

Sr divisional engineering.

SSE/P way sectional.

d) SSE/P way head quarters.

ANSWER-A

Engineering plan should contain the following information.

a) Class of the station.

b) Standard of interlocking.

c) Aspect control chart.

d) Clear available length of all lines.

ANSWER- D

Signaling plan is prepared on the basis on.

Route control chart.

Cable corage plan.

Engineering plan.

Station building plan.

ANSWER-C

Signal plan contains the following information.

Reference no. of engineering plan.

Details of platforms.

Details of rly boundary.

Description of work.

ANSWER—A

Every station in RE area should have the SWR duly signed jointly by

DSTE, DOM, DEE.

DSTE, DOM, DEN.

DOM, DEN, DSO.

DEE, DSO, DEN.

ANSWER--A

21) Station working rule (SWR) must be revised once in.

Two year.

Three year.

Four year.

a) Five year.

ANSWERð B

SWR should contain the following information.

Station working rule diagram.

Reception & dispatch of trains.

System of working & means of communication.

All A, B, and C.

ANSWER—D

SWR must read in conjunction with.

GR & SR.

AC traction manual

Telecom manual.

Accident manual.

ANSWER--A

24) In SWR working of signals, points interlocking siding points etc is covered in.

a) Appendix 'A'.

b) Appendix 'B'

c) Appendix 'C'.

d) Appendix 'D'

ANSWER—B

Who will ensure that class IV staff of the station read and understood the SWR?

a) Station superintendent.

b) Signal inspector.

c) Loco inspector.

d) Safety officer.

ANSWER—A

What guage tolrence allowed in straight line including curves of 350mtr or more?

a) -5 to +3 mm.

b) -5 to 10 mm.

c) -3 to +5 mm.

d) up to +10 mm.

ANSWER—A

What guage tolerance allowed on curves less than 350mtrs?

a) -5 to +3 mm.

b) -5 to +3 mm.

c) -5 to +3 mm.

d) up to +10 mm.

ANSWER—D

In BG section maximum speed up to 130kmph is permissible in.

'A' route.

'B' route.

'C' route.

'D' route.

ANSWER—B

29) In BG section maximum speed up to 100kmph is permissible in.

a) 'A' route.

b) 'B' route.

c) 'C' route.

d) 'D' route.

ANSWER—D

Any station situated in a gradient steeper than 1 in 80 falling towards the station shall be provided with.

Slip siding.

Catch siding.

Saloon siding.

d) Hot axle siding.

ANSWER—B

Any station situated in a gradient steeper than 1 in 100 falling away from the station shall be provided with.

Slip siding.

Catch siding.

Saloon siding.

d) Hot axle siding.

ANSWER—A

Any station system of signaling and interlocking and communication shownin _____ of SWR

Appendix ‘A’.

Appendix ‘B’.

Appendix ‘C’.

d) Appendix ‘D’.

ANSWER--B

Chapter-7 : Opening of Works

1) CCRS stands for.

a) Chief commissioner of railway safety.

b) Chief Commissioner for railway security.

c) Chief Commissioner of railway system.

d) Chief of commercial railway supervisor.

ANSWERð A

2) The commissioner of railway safety works under the administrative control of.

a) Railway ministry.

b) Civil aviation ministry.

c) Surface &transport ministry.

d) Home ministry.

ANSWER— B

The most important duties of CRS are.

a) Inspection of new lines before opening for the public.

b) Inspection of guage conversion work.

c) Inspection of doubling of lines.

d) All A, B, and C

ANSWER—D

The head quarter of chief commissioner of railway safety.

AGRA

KANPUR.

LUCKNOW.

PATNA.

ANSWER—C

Under the administrative control of CCRS all zonal railways &metro works are taken care by.

7no. of CRS.

9no.of CRS.

10no. of CRS.

11 no. of CRS.

ANSWER—B

Who is the principal technical advisor to central government of India?

CRB.

Member railway board.

General Managers.

CCRS.

ANSWER--D

How many Dy CRS's are posted in head quarter to assist the CCRS?

5 no. of Dy CRS.

6 no. of Dy CRS.

7 no. of Dy CRS.

a) 8 no. of Dy CRS.

ANSWERð A

The Northern circle CRS head quarter is at.

New Delhi.

Lucknow.

Kanpur.

a) Gorakhpur.

ANSWER-A

The Southern circle CRS head quarter is at.

Secunderabad.

Chennai.

Bangalore.

Pondicherry.

ANSWER—C

The Eastern circle CRS head quarter is at.

Gauhati.

Maldah.

Siliguri

d) Kolkata.

ANSWERð D

11) The Western circle CRS head quarter is at.

a) Mumbai.

b) Goa.

c) Ahmadabad.

d) Jaipur.

ANSWER-A

The northeastern circle CRS head quarter is at.

Lucknow.

Allahabad.

Gorakhpur.

Kanpur.

ANSWER-A

The northeast frontier circle CRS head quarter is at.

Bhubaneswar.

Visakhapatnam.

Kolkata.

Patna.

ANSWER-C

The southeastern circle CRS head quarter is at.

Jamshedpur.

Kharagpur.

Kolkata.

d) Khurda road.

ANSWERð C

The south central circle CRS head quarter is at

Hyderabad.

Secunderabad.

Hubli.

Chennai.

ANSWER--B

The central circle CRS head quarter is at

Goa.

Surat.

Baroda.

d) Mumbai.

ANSWER-D

Preliminary works proposal consisting of works costing below rupees.

a) 1 Crore.

b) 2 Crore.

c) 4 Crore.

d) 5 Crore.

ANSWER- D

The works coming under pink book costing above.

1.5 Crore.

2.5 Crore.

3.5 Crore.

4.5 Crore.

ANSWER-B

All new works and works in progress costing between Rs 50 Lakh to 2.5 Crore are listed in the.

Pink book.

Blue book.

Green book.

Orange book.

ANSWER—A

The signaling works which require CRS sanction.

Provision of telephone at already manned LC gate

All types of track circuits within the yard.

Provision of lifting barriers in place of already interlocked leaf gate

New station temporary or permanent

ANSWER--D

21) The signaling work which do not require CRS sanction.

Addition, alteration or extension to existing block.

Change in block signaling and interlocking scheme.

New station temporary or permanent.

Provision of lifting barriers in place of already interlocked leaf gate.

ANSWER--D

Application to the commissioner of railway safety, for sanction for carrying out works in the division should be made by.

JAG officer.

SAG officer.

HAG officer

Sr HAG officer.

ANSWER—A

The safety certificate for engineering works should be signed by.

P/way sectional.

P/way in charge

Asst engineer.

Divisional engineer.

ANSWER--C

24) All new and modified signals must be inspected and passed by a.

a) Signal standard committee.

b) Signal sighting committee.

c) Signal supervising committee.

d) Signal sighting commission.

ANSWERð B

The validity of CRS sanction is

a) 1 year.

b) 2 year.

c) 3 year.

d) 4 year.

ANSWER—A

The currency of the traffic notice is.

50 days.

70 days.

90 days.

d) 100 days.

ANSWERð C

27) The concerned department will have to apply for green notice before commencement of work

a) At least 1 day before

b) At least 3 days before.

c) At least 5 days before

d) At least 7 days before.

ANSWER-D

Who will issue the green notice or traffic notice.

a) Sr DOM.

b) Sr DSO.

c) Sr DSTE.

d) Sr DEN.

ANSWER-A

29) The green notice or traffic notice contain the following items.

a) Nature and probable duration of work.

b) Speed restriction and caution order to be followed.

c) System of working of signals, interlocking and block during the period.

d) All A, B and C.

ANSWER-D

Joint inspection by divisional open line and construction organization both at supervisor & officer level shall be undertaken.

a) Before work is started.

b) Before taking the noninterlocking.

c) After one month of commissioning.

d) After the station is commissioned.

ANSWERð B

The cost of estimate under LSWP(lump sum works proposal) is.

a) Less than 50,000.

b) More than 50,000.

c) Less than 1 crore.

d) More than 1 crore.

ANSWERð C

The cost of estimate under LAW (list of approved works) is.

a) 1 Cr to 1.5 Cr.

b) 1.5 Cr to 2 Cr

c) 1 Cr to 2 Cr.

d) 1 Cr to 2.5 Cr.

ANSWERð D

A draft of proposal of works for pink book by zonal railway to railway board is known as.

a) PWP (preliminary works program).

b) LSWP (lump sum works proposal).

c) FWP (final works program).

d) LAW (list of approved works).

ANSWERð

34) The cost of estimate under PINK BOOK is.

a) 1 Cr to 1.5 Cr.

b) 1.5 Cr to 2 Cr

c) 1 Cr to 2 Cr.

d) 2.5 Cr.

ANSWER--D

Chapter-8 : Estimates

1) For preparing estimate for line capacity which department will take the initiative?

a) Operating department.

b) Engineering department.

c) Signal and telecom department.

d) Commercial department.

ANSWERð A

2) The schedule of rates (SOR) may be revised in.

a) Every three years.

b) Every five years.

c) Every seven years.

d) Every eight years.

ANSWER— B

The price list of stores issued by stores department shall be maintained by.

a) In charge SSE's office.

b) ASTE's office.

c) Divisional office.

d) Zonal office.

ANSWER—C

The new minor works costing.

Rs 2000 and less.

Rs 5000 and less.

Rs 6000 and less.

Rs 7000 and less.

ANSWER—D

Reconditioning work costing Rs 50000 and less, ------------ estimate is not required.

Abstract estimate.

Detail estimate.

Revise estimate.

Completion estimate.

ANSWER—B

The sanction of the competent authority to the detail estimate of a work is known as.

Work sanction.

Technical sanction.

Departmental sanction.

Official sanction.

ANSWER--B

The abstract estimate of construction project should be submitted for the approval of the railway board on form.

a) E.550.

b) E.551.

c) E.554.

d) E.555.

ANSWER—C

The following items are shown in construction estimate.

Amount of sanctioned estimate.

Commitments on the date.

Anticipated further outlay.

a) All óAôóBôand óCô

ANSWER--D

5) Who is eligible to give sanction on expenditure on new works out of turn in respect to userôs amenities not exceeding 1 lakh in each case?

a) CSTE.

b) DYCSTE.

c) GENERAL MANAGER.

d) RAILWAY BOARD.

ANSWERð C

10) The currency of any sanction to estimate will ordinarily remain for ------------years.

a) three.

b) Five.

c) Seven.

d) Eight.

ANSWER— B

No work may be commenced and no liability in expenditure incurred on a work until----------for it has been sanctioned.

a) Abstract estimate.

b) Detail estimate.

c) Revised estimate.

d) Sanctioned estimate.

ANSWER—B

Chapter-9 : SOM of Maintenance of Signalling Apparatus, Painting Programme

1) Signal technician will report to the supervisor if he observes.

   a) Excess wear and tear of the equipment.
   b) Any defect observed in the design of any equipment.
   c) If the foundations are shaking.
   d) All ́AôćBôAND ćCô

ANSWERð D

2) Clean the greasing nipples and grease all points with.

a) grease gun .

b) Plastic gun.

c) Glue gun.

d) Water gun.

ANSWER— A

Signal arm, indicators etc which are to be painted conventional colors shall be painted.

a) Once in six months.

b) Once in a year.

c) Once in two years.

d) Once in three years.

ANSWER—D

Signal posts and cabin levers which are to be distinguished by colors shall be painted.

Once in two years.

Once in three years.

Once in four years.

Once in six years

ANSWER—B

Roding roller guide assembly etc. Which only need a protective covering shall be.

Once in two years.

Once in three years.

Once in four years.

Once in six years.

ANSWER—B

Each JE/SE/SSE shall maintain painting program and shall record in the register?

Signal failure register.

Complaint registers.

Inspection registers.

Signal incidence book.

ANSWER--D

Every JE/SE/SSE shall submit requisition for the painting material sufficiently in advance to?

Sr DCS.

Sr DSO.

Sr DMO.

a) Sr DSTE.

ANSWERð D

The paints shall be stored in.

Cool place.

Dry place.

Away from flame.

a) All óAôóBôand óCô

ANSWER-A

The lever number of points and facing lock bars should be painted on the web close to the toe of the switch rail in.

3o mm letters.

40 mm letters.

50 mm letters.

60 mm letters.

ANSWER—C

The no of lever shall also be painted on the front and back side of the girder supporting the frame opposite each lever in.

20 mm.

25 mm.

30 mm.

d) 40 mm.

ANSWERð C

11) The single line token & tablet instruments body is to be painted with.

a) Black enamel.

b) Grey enamel.

c) Green enamel.

d) Blue enamel.

ANSWER-B

The single line token less block instruments body is to be painted with.

Grey enamel

Green enamel.

Black enamel.

Blue enamel.

ANSWER-A

The double line block instrument metal casing is to be painted with.

Grey enamel.

Green enamel

Black enamel.

Blue enamel.

ANSWER-B

The testing of locking as per locking table is to be done.

Once in a year.

Once in two year.

Once in three year.

d) Once in four years.

ANSWER-A

The JE/SE sectional shall check the rodding run, alignment, spacing of rollers free from vegetation growth.

Once in a month.

Once in two months.

Once in six months.

Once in a year.

ANSWER-A

The JE/SE sectional shall check the rodding run, under the track is clear of rails and obstruction.

Fortnight.

Half yearly.

Yearly.

d) Quarterly.

ANSWER-D

The JE/SE sectional shall check the cleaning and lubrication of moving parts of point and check point chairs.

a) Everyday.

b) Weekly.

c) Fortnight.

d) Monthly.

ANSWER- D

The JE/SE sectional shall check the switches are housed properly against stock rail and check spring on the switches equal in the normal and reverse position once in a.

Weekly.

Fortnight.

Monthly.

Daily.

ANSWER-C

The JE/SE sectional shall check the cleanliness of lenses inside and outside once in a.

Day.

Week.

Quarter.

Half yearly.

ANSWER—C

The JE/SE sectional shall check the signal lamps are working at 90% of rated voltage.

Weekly.

Fortnight.

Monthly.

Quarterly.

ANSWER--B

21) Signal technician shall check the polarity of the coil of reverser to be changed once in a.

Weekly.

Monthly

Quarterly.

Yearly.

ANSWER--B

The JE/SE sectional shall check the insulation test of the point machine is to be measured.

Quarterly.

Monthly.

Half yearly.

Yearly.

ANSWER—C

The double distant territory distant signal post shall be painted with alternative black and Yellow strips.

200 mm.

300 mm.

400 mm.

500 mm.

ANSWER--B

24) The junction boxes battery boxes and apparatus cases shall be painted with.

a) White paint.

b) Red oxide.

c) Aluminum paint.

d) Silver paint.

ANSWERð B

The level crossing gate control lever is to be painted with the color.

a) Red.

b) Brown.

c) Chocolate.

d) Green.

ANSWER—C

The king lever is to be painted with the colour.

Red & white bands 150 mm wide.

Red & yellow bands 150 mm wide.

Blue & white bands 150 mm wide.

d) White & blue bands 150 mm wide.

ANSWERð A

27) The size of the SLB and BSLB board shall be

a) 300 mm x 600 mm

b) 400 mm x 600 mm.

c) 600 mm x 800 mm

d) 600 mm x 900 mm.

ANSWER-D

The following are the main items of signaling equipment that need regular paintings.

Signal arms, point indicator, boards and markers.

Signal posts and signal fittings.

Interlocking frames, their levers & fittings.

d) All ‘A’,’B’, and ‘C’.

ANSWER—D

The SSE shall check the point machines are kept free from rust and dirt and fixtures, check for tightness

Quarterly.

Monthly.

Half yearly.

d) Yearly.

ANSWER--A

The JE/SE sectional shall check and ensure that key cannot be extracted regularly.

Quarterly.

Monthly.

Half yearly.

d) Yearly.

ANSWER-B

The JE/SE sectional shall check the circuit controller are rigidly fixed to the signal.

Quarterly.

Monthly.

Half yearly.

a) Yearly.

ANSWER-B

Chapter-10 : Periodical Testing & Overhauling of Signalling Apparatus

1) The interlocking frames shall be tested by JE/SE once in a

a) Six months.
b) Year.
c) Two years.
d) Three years.

ANSWERð B

2) The interlocking lever frame shall be overhauled at the intervals not exceeding.

a) Two years.

b) Three years.

c) Four years.

d) Five years.

ANSWER— B

In the mechanical points rod run stroke loss is due to.

a) Slackness in the guide roller assembly.

b) Slackness in the foundation of tressles.

c) Oblong holes of studs etc.

d) All A, B, and C

ANSWER—D

The lock bar is used in mechanical point.

To lock the point.

To avoid under wheel operation.

To support the stock rail.

Both ‘A’ and ‘B’.

ANSWER—D

To check the wheel marks on lock bar lock bar should be below the rail by.

28 mm.

35 mm.

38 mm.

42 mm.

ANSWER—C

The total no of lock bars clips in each lock bar is?

10.

12.

15.

18.

ANSWER--B

When lock bar is in unlocked plunger of facing point lock should be clear from split stretcher blades by.

12 mm.

13 mm.

14 mm.

a) 15 mm.

ANSWERð A

When the lamps fixed on post are to be overhauled.

Once in three month.

Once in six months.

Once in a year.

a) Once in two year.

ANSWER--C

Mechanical rod run or in wire transmission the type of oil used for lubrication purpose.

Kerosene oil.

Mustard oil.

Black mineral oil.

SAE30 oil.

ANSWER—C

The double wire interlocking frames dynamometer test should be carried out.

Once in three month.

Once in six month.

Once in nine months.

d) Once in a year.

ANSWERð B

11) In double wire interlocking frames force required to operate a lever should not exceed.

a) 25kg.

b) 30kg.

c) 35kg

d) 40kg.

ANSWER-C

What should be the method for testing of interlocking?

Testing against the interlocking.

Testing against the interlocking and yard diagram.

Visual inspection of interlocking.

All ‘A’ ‘B’ and ‘C’.

ANSWER-D

The testing of the interlocking is to be maintained in the register.

Signal failure and inspection book at the station.

Register maintained by JE/SE/SSE (S).

Cards in divisional and headquarters office.

All 'A' 'B' and 'C'.

ANSWER-D

Program of overhauling should be drawn out at the divisional level on monthly basis by.

ASTE/HQ.

DSTE.

DTI/HQ.

d) DOM.

ANSWERð B

When a lever frame or interlocked key box or any other interlocking frame is overhauled, the station must be worked in accordance with the special instructions issued by.

DSTE.

Each railway.

Station superintendent.

DSO.

ANSWER--B

During non interlocking work of any station movement of the trains is the responsibility of.

Signal department.

Engineering department.

Commercial department.

d) Operating department.

ANSWER-D

Periodical overhauling of single line token block instrument.

a) 2 years.

b) 5 years.

c) 10 years.

d) 15 years.

ANSWER- C

Periodical overhauling of double line block instrument.

2 years.

5 years.

7 years.

10years.

ANSWER-C

Periodical overhauling of handle type single line token less block instrument.

5 years.

7 years.

8 years.

10years

ANSWER—B

The testing of all electrical signaling circuit of relay interlocking up to 20 routes shall be done by.

Sr technician

JE/SE/SSE.

ASTE.

DSTE.

ANSWER--B

21) The aspects shall be checked during the physical inspection.

The signals, location boxes and other outdoor equipment are as per approved plans.

No equipment including relays is due for overhauling.

The lightning arrestors are properly connected and earthed as per plan.

'A' 'B' and 'C'.

ANSWER--D

Approach locking, indication locking, track locking and back locking should be tested.

Once in six month.

Once in a year.

Once in a quarter.

Once in half year.

ANSWER—A

In any interlocking lever frame having levers more than 30 levers testing of lever frame is the personal responsibility of.

SSE/SE/JE sectional.

SSE in charge only.

SSE head quarter.

ASTE/DSTE/Sr DSTE.

ANSWER--D

24) On the actual date of 'non interlocking' for OH, if permitted action to be taken.

a) Issue disconnection memo with actual time.

b) No run through is permitted during NI.

c) Nominate and provided one 'Free Home Signal'.

d) All óAôóBôand óCô

ANSWERð D

Traffic notice issued by DOM/DSO should contain the following information's.

a) When the overhauling work would be taken up?

b) Loco foreman to advice drivers to observe the temporary speed restriction?

c) What should be the speed during NI period?

d) All 'A' 'B' and 'C.

ANSWER—D

The program of overhauling should be drawn out on at the divisional level on monthly basis, preferably spread over a period of --------------- months.

Three.

Six.

Seven.

a) Nine.

ANSWERð

25) Procedure for overhauling of a lever frame first apply a traffic notice at least ------ days before.

3 days.

5days.

7days.

a) 9days.

ANSWER--C

26) During non interlocking work all trains shall pass.

a) Only run through.
b) Stop and start.
c) At normal speed.
d) Maximum permissible speed.

ANSWER--B

Chapter-11 : Push Trolleys & Motor Trolleys

1) No trolley shall be placed on the line except by a.

a) Honest and laborious person appointed in this behalf.
b) Qualified person appointed in this behalf.
c) Highly qualified person appointed in this behalf.
d) Any one can be appointed on this behalf

ANSWERð B

2) The qualified person shall hold a ------------------ issued by an authorized officer-.

a) Certificate of excellence.

b) Certificate of merit.

c) Certificate of competency.

d) Certificate of benefited.

ANSWER— C

Any trolley which is propelled, by means of a motor shall be deemed to be a.

a) Push trolley.

b) Cycle trolley.

c) Material trolley.

d) Motor trolley.

ANSWER—D

The staff in whose favor a certificate is issued should have.

The Knowledge of Hindi.

The Knowledge of other local language.

Passed the prescribed medical test.

All of the above.

ANSWER—D

Motor trolley shall be manned by.

4 able-bodied trolley man.

5 able-bodied trolley man.

6 able-bodied trolley man

7 able-bodied trolley man.

ANSWER—A

The motor trolley shall not exceed the speed by----------during the night.

10kmph.

12kmph.

15kmph.

30kmph.

ANSWER--D

The push trolley shall not exceed the speed by.

a) 10kmph.

b) 12kmph.

c) 15kmph.

d) 30kmph.

ANSWER—C

The attachment of push trolley or motor trolley to a train.

Can be permitted.

Cannot be permitted.

Prohibited.

a) Depends upon the authority.

ANSWER--C

The validity of the competency certificate trolley, motor trolley, lorry is.

One year.

Two year.

Three year.

Four year.

ANSWER—A

Whenever a trolley shall be placed on the platform or besides any running lines hall be.

Parallel to track.

Perpendicular to track.

For away from the track.

Nearer to the track.

ANSWER— A

11) The maximum number of persons including trolley men in trolley/motor trolley must not exceed

a) 05.

b) 10.

c) 20.

d) 30.

ANSWER-B

The minimum requirement of equipments for trolley and motor trolley.

Two red and two green hand signal flag.

12 no. of detonators.

A chain and padlock.

All ‘A’ ‘B’ and ‘C’.

ANSWER-D

The conveyance of trolley/motor trolley should be loaded in a train with the consent of.

Driver of the train.

Sectional controller.

The official in-charge of trolley.

Guard of the train.

ANSWER-D

In case of emergency trolley shall be used for the conveyance of persons other than railways like.

Magistrate.

Military.

Medical &forest department.

d) All óAôóBôand óCô

ANSWERð D

The speed of the motor trolley shall not be more than 8 kmph while moving over.

Loop line.

Main line.

In curvature.

Points &crossing.

ANSWER--D

When the lorry is stopped in mid section for unloading protection to be taken by.

Signal department.

Engineering department.

Commercial department.

d) Operating department.

ANSWER-B

When a trolley in the mid section is stopped for unloading protection to be taken.

a) Banner flag at 300mtrs and at 600 mtrs three detonators.

b) Banner flag at 400mtrs and at 800 mtrs three detonators

c) Banner flag at 600mtrs and at 1200 mtrs three detonators.

d) Banner flag at 300mtrs and at 1200 mtrs three detonators.

ANSWER--C

When a motor trolley is loaded in the passenger train it should be ensured that.

The flow of petrol in the carborator has been cutoff.

Any pressure has been released from the tanks.

The tank is closed with well fitting cap.

All ‘A’ ‘B’ and ‘C’.

ANSWER-D

In long bridges cuttings and high banks some place is kept free at intervals for trolley is known as.

Trolley station.

Trolley garage.

Trolley stand.

Trolley refuges.

ANSWER—D

In a block section provided with IBH if a motor trolley is permitted to follow a train station master shall treat the entire section as.

One block section.

Two block section.

Automatic block section.

IBH section.

ANSWER--A

21) The speed of the motor trolley should not exceed 15 kmph while passing over the .

Loop line.

Main line.

River bridges.

Points and crossings.

ANSWER--D

No trolley/motor trolley shall be placed on line unless it is fitted with.

Search light.

Red back light.

Red flag on the top.

Efficient brake.

ANSWER—D

When two or more trollies travelling together, to ensure the safety distance between the two trollies must be.

100 mtrs.

200 mtrs.

c) 300 mtrs.

d) 400 mtrs.

ANSWER--A

24) A motor trolley may be allowed to follow a motor trolley during.

a) Foggy weather.

b) Stormy weather.

c) Clear weather.

d) Unfavorable weather.

ANSWERð C

Which trollies are not currently prevalent in many railways.

a) Push trolley.   b) Motor trolley.

c) Material trolley.   d) Moped trolley.

ANSWER—D

Chapter-12 : Working of Trains in Abnormal Conditions & Emergencies

1) In case of total interruption of communication trains can be passed LSS signal only.

   a) After getting the verbal instruction from SM on duty.

   b) With proper authority to proceed.

   c) With normal speed without permission.

   d) With proper authority and restricted speed.

ANSWERð B

2) Exceptional case can the train be backed if so how far it can travel?

a) In any case train cannot be moved back side.

b) Can move backside up to certain distance without any protection.

c) Can move backside up to certain distance with some protection.

d) Depending upon the signal from guard can move up to any distance.

ANSWER--C

While moving back what is the protection to be taken and where?

a) One detonator at 250 mtrs, and two detonators at 500 mtrs.

b) One detonator at 100 mtrs, and two detonators at 500 mtrs.

c) One detonator at 200 mtrs, and two detonators at 500 mtrs

d) One detonator at 100 mtrs, and two detonators at 400 mtrs.

ANSWER—A

The minimum time interval between two successive trains shall not be less than.

25 minutes.

30 minutes.

35 minutes.

40 minutes.

ANSWER—B

All entries relating to the trains in TSL working shall be made in TSR by?

Red ink.

Black ink.

Green ink.

Blue ink.

ANSWER—A

The engine or self propelled vehicle or other vehicles proceeding on ''Authority to proceed without line clear' when view is clear at a speed not exceeding.

10kmph.

12kmph.

15kmph.

30kmph.

ANSWER--C

The engine or self propelled vehicle or other vehicles proceeding on ''Authority to proceed without line clear' when view is not clear & obstructed view at a speed not exceeding.

a) 8kmph.

b) 10kmph.

c) 15kmph.

d) 30kmph.

ANSWER—A

During the single line working, drivers of train, including light engine shall be issued a caution order in which the following information's are to be provided? .

The line no on which train has to run.

The kilometer no where the obstruction exists.

Restriction of speed if any.

a) All ǿAôǿBôand ǿCô

ANSWER--D

When non signaling movement is to be done in case of any unusual situation it's the duty of.

SM to pass the train safely.

SI to pass the train safely.

Chief controller to pass the train safely.

Section controller to pass the train safely.

ANSWER—A

When a signal fails authority to pass the signal is issued on a prescribed form.

T/369(3B).

T/369(1).

S&T T/351.

d) T/462.

ANSWERð A

11) The caution order or speed restriction is to be issued to the driver on a prescribed form.

a) T/369(1).

b) T/409.

c) T/465.

d) T/509.

ANSWER-B

When a material train is going into the section which will come back to the originating station

T/509.

T/465.

T/462.

T/462A.

ANSWER-C

The T/509 is the authority to be issued to the driver of a train.

To enter into block section.

To enter into obstructed line.

To enter into a private siding.

To enter into wrong line.

ANSWER-B

12) The T/465 is the authority to be issued to the driver of a.

Passenger train.

Goods train.

Material train.

d) Track machine.

ANSWERð D

All the records in connection with temporary single line working shall be retained at the station for the scrutiny by.

Loco inspector.

Traffic inspector.

Signal inspector.

P way inspector.

ANSWER—B

After scrutinizing the single line working record of a station by traffic inspector shall be submitted to.

DOM.

DSO.

ADRM.

d) DRM.

ANSWER--D

Normal working of train movement has to be introduced by station master only after.

a) Receiving the written certificate from responsible engineering officials.

b) Receiving the written certificate from responsible operating officials

c) Receiving the written certificate from responsible signal officials.

d) Receiving the written certificate from responsible C&W officials.

ANSWER--A

The speed of the first train passing over the temporary single line working is restricted to.

15kmph.

20kmph.

25kmph.

30kmph.

ANSWER-C

The SM who has a train to dispatch into the effected block section with no communication shall establish contact with the SM of the block station on the other end by sending.

Light engine.

Motor trolley.

Train engine after detaching the train.

All ‘A’ ‘B’ and ‘C’.

ANSWER—D

A record of all trains passed over the block station on 'authority to proceed without line clear' during the course of total interruption of communication shall be scrutinized by traffic inspector and submitted to DRM within

3 days.

5 days.

7 days.

9 days.

ANSWER--C

Objective questions

Chapter 1 : Secondary cells

1) Secondary cells work on

a) reversible physical reactions b) Irreversible physical reactions

c) reversible chemical reactions d) irreversible chemical reactions

(Ans- c)

2) Accumulators is the name of

a) Primary cells b) Dry cells c) Leclanche wet cells d) Secondary cells

(Ans- d)

3) Which of the following cells is a lead acid battery?

a) Nickel Cadmium battery b) VRLA battery

c) Silver Zinc battery d) Nickel Iron battery

(Ans- b)

4) Capacity of cells is expressed as

a) Volts Amperes b) Volts Hours c) Density of electrolyte d) Ampere hours

(Ans- d)

5) Capacity of the secondary cell does not depend on

a) Construction of plates b) Size of the cell

c) Thickness of plates d) Size of terminals

(Ans- d)

6) The flooded type lead acid cells with ------- AH capacity is not used for signaling applications generally

a) 180 b) 80 c) 300 d) 120

(Ans- a)

7) Maximum Permitted D.O.D (depth of discharge) of LMLA cells is

a) 50% b) 100% c) 90% d) 80%

(Ans: d)

8) If the load current of a system is 20A , the backup time required is 6Hours and the permitted D.O.D is 70% then the required capacity of the battery is

a) 200AH b)300AH c) 120AH d) 80AH

(Ans: a)

9) In a Lead acid cell the number of negative plates is

a) equal to the number of positive plates

b) one less than the number of positive plates

c) two more than the number of positive plates

d) one more than the number of positive plates

(Ans: d)

10) During charging process of a lead acid cell

a) the Specific gravity of acid increases

b) the Specific gravity of acid decreases

c) no change occurs in the specific gravity of acid

d) The water content increases

(Ans: a)

11) The temperature of the electrolyte in the cell is

a) Directly proportional to the specific gravity

b) Inversely proportional to the specific gravity

c) directly proportional to the voltage of the cell

d) inversely proportional to the charging time

(Ans: b)

12) For preparing the electrolyte solution for cells

a) iron container can be used b) brass container can be used

c) glass container cannot be used d) PVC container can be used

(Ans: d)

13) If specific gravity of acid is 1825, required specific gravity of solution is 1190 then the ratio of acid to water should be

a) 7:11 b) 5:6 c) 1:5 d) 3:5

(Ans : c)

14) The level of electrolyte should be ----- mm above plates in the cell

a) 20 to30 b) 30 to 40 c) 5to 10 d) 12 to 15

(Ans : d)

15) If C is the AH capacity of the secondary cell then the rate of boost charging current is

a) C/ 20 b) C/10 c) C/5 d) C/18

(Ans : b)

16) The charger output voltage per cell in boost mode should be

a) 2.10 V b) 2.15 V c) 2.40 V d) 2.3 V

(Ans: c)

16) The charger output voltage per cell in for initial charging should be

a) 2.7 V b) 2.25 V c) 2.40 V d) 2.2 V

(Ans: a)

17) The reason for low level of electrolyte in the cell is

a) Internal short circuit b) poor specific gravity

c) excessive charging d) Plates worn out

(Ans: c)

18) Codal life of a secondary cell is

a) 6 years b) 4 years c) 7 years d) 3 years

(Ans : b)

19) Voltage of fully discharged cell is

a) 1.80 V b) 2.00 V c) 1.90 V d) 1.95 V

(Ans : a)

20) Specific gravity of fully discharged cell is

a) 1195 b) 1200 c) 1190 d) 1180

(Ans : d)

21) The maximum boost charging current of a 300AH battery shall be

a) 15A b) 10 A c) 25 A d) 30 A

(Ans : d)

22) Specific gravity of fully charged cell is

a) 1205 b) 1220 c) 1200 d) 1240

(Ans : b)

Chapter 2 : Low maintenance lead acid cells

1) LMLA battery is to be charged in -----------

a) constant voltage mode b) Constant current mode

c) increasing current mode d) increasing voltage mode

(Ans : b)

2) Topping up of electrolyte in cells is done with ---------

a) Distilled water b) concentrated acid

c) dilute sulphuric acid d) electrolyte

(Ans : a)

3) For conducting capacity test the battery is connected to a load of ------ of its capacity

a) 20% b) 15% c) 5 % d) 10%

(Ans : d)

4) The initial charging of LMLA cells is done for -------- Hours

a) 40Hrs b) 45Hrs c) 50Hrs d) 60Hrs

(Ans : d)

5) The float charging current of of a 200AH battery should be

a) 100 -400 ma b) 500 ï 2000ma c) 200 ï 800ma d) 400 ï 1600ma

(Ans : c)

6) Before conducting capacity test the battery should be kept without load for ------ Hrs after giving full charge

a) 8Hrs b) 12Hrs c) 10 Hrs d) 6Hrs

(Ans: b)

7) The discharge during capacity test shoud be terminated when the voltage of any one cell in the bank reaches ------ V

a) 1.6 b) 1.90 c) 1.85 d) 1.95

(Ans: c)

8) Correction of the capacity is to be done during the capacity test when ever Temperature varies from

a) 240 C b) 250 C c) 270 C d) 280 C

(Ans : c)

Chapter 3 : Battery charger –Self regulating type

1) The range of input voltage for the battery charger is -----------V AC

a) 130-230 b) 160- 300 c) 160-270 d) 180-220

(Ans : c)

2) The R.M.S ripple voltage of battery charger output shall not be more than ------

a) 5% b) 2% c) 10% d) 15%

(Ans : a)

3) For a charger used for Axle counters the R.M.S ripple voltage of output shall not be more than ------

a) 20mv b) 15mv c) 5mv d) 10mv

(Ans : d)

4) The normal output of charger in float mode shall be ------- volts per cell

b) 2.10 b) 2.00 c) 2.25 d) 2.30

(Ans: c)

5) The battery charger gives low battery alarm when cell voltage falls to ------

a) 1.80V b) 1.95V c) 1.90V d) 2.00V

(Ans : b)

6) The battery charger gives start DG alarm when cell voltage falls to ------

a) 1.80V b) 1.95V c) 1.90V d) 2.00V

(Ans : C)

7) The charger shall automatically change to boost mode when the charging current increases more than------ of rated current

a) 10 % b) 15 % c) 8 % d) 5 %

(Ans : C)

8) The power factor of charger shall not be less than -----

a) 0.7 b) 0.9 c) 0.95 d) 0.85

(Ans : a)

9) The no load current of the charger shall not be more than------ of rated current

a) 10 % b) 15 % c) 7 % d) 12 %

(Ans : a)

10) The maximum permitted load on battery bank shall be

a) C/15 b) C/20 c) C/5 d) C/10

(Ans : d)

11) Which of the voltage is not recommended as nominal voltage of charger

a) 12V b) 15V c) 24V d) 48V

(Ans: b)

12) If the rated output of charger is 60V then the maximum number of cells which we can charge with the charger is

a) 30 b) 31 c) 33 d) 32

(Ans : d)

13) The codal life of a battery charger is

a) 15 years b) 12 years c) 20 years d)10 years

(Ans : d)

14) When the charger becomes defective the output voltage of charger shall not exceed ----- Volts per cell in auto mode

a) 2.5v b) 2.3v c) 2.4v d) 2.2v

(Ans: c)

15) For 200 AH capacity battery the charger rating shall be

a) 20 Amps b) 10Amps c) 15 Amps d) 40Amps

(Ans : d)

16) The maximum permitted load on a 300 AH battery is

a) 30Amps b) 20Amps c) 15 Amps d) 25Amps

(Ans : a)

Chapter 4 : Ferro Resonant type automatic AC voltage regulator

1) The primary side core of FRVR is made of -------------

a) Saturated iron b) saturated steel

c) unsaturated iron d) unsaturated steel

(Ans: c)

2) The knee voltage of FRVR is ---------- AC

a) 180V b) 200V c) 140V d) 160V

(Ans: d)

3) The compensating winding in FRVR is connected

a) in series with secondary winding b) in series with primary winding

b) in parallel with secondary winding d) in parallel with primary winding

(Ans: b)

4) The magnetic shunt in FRVR helps to

a) Increase secondary voltage b) helps to reduce primary voltage

c) achieve resonance effect d) isolate primary and secondary flux

(Ans : d)

5) The no load power in FRVR is not more than --------- of rated input power

a) 15% b) 10% c) 20% d) 25%

(Ans: a)

6) The no load current of of FRVR shall not be more than ------- of the rated current

a)15% b) 20% c) 10% d) 30%

(Ans: d)

7) FRVR is designed to with stand short circuit on output upto ----

a) 20min b) 1 hour c) 30min d) 2hours

(Ans : b)

8) FRVR consists of three capacitors all rated for ---------

a) 440V b) 350V c) 600V d) 230V

(Ans: c)

Chapter 5 : Integrated Power Supply System

1) In the IPS system when both the inverters fail the load of signal lighting is shifted automatically to

a) CVT module b) Transformer c) AT d) DG supply.

(Ans : a)

2) If the total AC load of a signaling installation is 1800 VA the required capacity of Inverter module shall be

a) 1.5 KVA b) 1KVA c) 2KVA d) 3.5 KVA

(Ans: c)

3) Type III surge protection is provided

a) in main power distribution panel b) in sub distribution board

c) inside IPS d) in power distribution lines

(Ans : d)

4) The load of ------ is not configured in IPS

a) Axle counter b) Data logger c) AFTC d) RKT

(Ans: c)

5) The battery supply to inverters in IPS shall be disconnected at ------ D.O.D of battery

a) 50% b) 90% c) 60% d) 70%.

(Ans: d)

6) If the load on battery is 30A, backup time is 8Hrs and permitted D.O.D is 70%, then the required capacity of battery is

a) 400 AH b) 300 AH c) 200 AH d) 180 AH .

(Ans : a)

7) At ----- D.O.D of battery the ñStart DGòindication appears in the Remote Indication Panel

a) 80% b) 50% c) 60% d) 70%.

(Ans: b)

8) N+2 configuration of DC-DC converters is chosen for

a) Relay external circuit b) Relay internal circuit

c) Block circuit d) Axle counter circuit

(Ans: b)

9) The AC input voltage range of IPS is

a) 200 to 350V b) 120-200V c) 150-270V d)220-250V

(Ans: c)

10) Load of AFTC is connected to ------ module of IPS

a) SMR b) Inverter c) CVT d) no module

(Ans: d)

11) Automatic change over between Inverters and CVT takes place in ---- msec

a) 50 b) 60 c) 200 d) 500

(Ans: b)

12) CSU module is provided in ------ of IPS (F)

a) SMPS b) ACDP c) DCDP d) status monitoring panel

(Ans: a)

13) SMR trips when temperature raises beyond

a) 80^0C b) 50^0C c) 60^0C d) 70^0C

(Ans: d)

14) Supply for track circuits is taken from

a) Inverters b) charger c) SMR d) transformer

(Ans: b)

15) The Output AC of CVT modules is

a) 110V AC b) 110VDC c) 220V DC d) 230V AC

(Ans : d)

16) For Point operation DC 110V is taken through a

a) 20A fuse b) 10A fuse c) 15A fuse d) MCB

(Ans: a)

17) If the relay internal load of a station is 18Amps then the number of DC DC converter modules @5A required for relay internal circuit will be

a) 3 b) 6 c) 4 d) 8

(Ans : b)

18) If the relay external load of a station is 16 Amps then the number of DC DC converter modules @5A required for relay external circuit will be

a) 3 b) 6 c) 4 d) 5

(Ans : d)

19) The voltage drop in power cable from AT to power panel shall be less than

a) 20 V b) 15V c) 25 V d) 30 V

(Ans: d)

Chapter 6 : Power Supply Arrangements

1) If traction switching post is located within -------- mt from station then the AT supply is drawn directly from it.

   a) 200 b) 150 c) 350 d) 500

(Ans : c)

2) The order of supplies for automatic change over at way side stations is

   a) Main AT supply , first standby Local supply, DG second standby

   b) Main Local supply, first standby AT supply, DG second standby

   c) Mains AT supply, first standby DG, second standby Local supply

   d) Any one of the other three

(Ans: a)

3) For cabins beyond ï --- KM separate set of AT & CLS panel are provided

   a) 03 b) 01 c) 2.5 d) 2

(Ans: d)

4) The AT with the following capacity is not available

   a) 5KVA b) 6KVA c) 10KVA d) 25KVA

(Ans: b)

5) The capacity of AT for a station with 6 to 10 lines shall be

   a) 10KVA b) 30KVA c) 15KVA d) 25KVA

(Ans : d)

6) The capacity of AT for major RRI with more than 10 lines shall be

   a) 50KVA b) 25KVA c) 20KVA d) 75KVA

(Ans: a)

7) The order of supplies for RRI installation shall be

   a) Main AT supply, first standby 3phase Local supply, DG second standby

   b) Main 3 phase Local supply, first standby AT supply, DG second standby

   c) Mains AT supply, first standby DG, second standby 3 phase Local supply

   d) Any one of the other three

(Ans: b)

8) AT supply for lighting shall not be extended to

   a) SM room b) S&T cable hut c) FOB d) SM store room

(Ans : d)

9) When ZR relay drops

   a) Signals go blank b) Track circuits fail to operate

   c) Route will not release d) Points fail to operate

(Ans: c)

10) Power panel may have facility to bypass

a) Inverter b) CLS Transformer c) Stabilizer d) Track chargers

(Ans : c)

11) For signal lighting circuits ------------- is used

a) 110V DC with unscreened cables
b) 110V AC with unscreened cables
c) 110V DC with screened cables
d) 110V DC with screened cables

(Ans : b)

12) For track circuits the supply shall be --------

a) 3 cells connected in parallel
b) 2 cells connected in parallel
c) 3 cells connected in series
d) 4 cells connected in parallel

(Ans : c)

13) The size of power cable with 25 KVA at shall be

a) 2 x 165 sqmm Aluminium
b) 4 x 165 sqmm Aluminium
c) 2 x 185 sqmm Aluminium
d) 2 x 200 sqmm Aluminium

(Ans : c)

14) The size of power cable with 10 KVA at shall be

a) 2 x 100 sqmm Aluminium
b) 2 x 70 sqmm Aluminium
c) 2 x 150 sqmm Aluminium
d) 2 x 120 sqmm Aluminium

(Ans: b)

15) At the input side of power panel ------ is provided

a) RCD b) Fuse c) MCB d) SPD

(Ans: c)

Chapter – 7 : Power Supply Load Calculation

1) If the primary side of a transformer draws 500 VA power and secondary side draws 400VA power, then the efficiency of the transformer is

a) 0.5 b) 0.6 c) 0.8 d) 0.95

(Ans: c)

2) The current drawn by 200 number of QN1 relays will be

a) 14A b) 10A c) 20 A d) 5A

(Ans: a)

3) If one LED unit draws 14omA current then a 3aspect LED signal unit draws ------current

a) 420 ma b) 280ma c) 140ma d) 600ma

(Ans: c)

4) If the load of signals at station is 1600VA the required capacity of Inverter will be

a) 2.5 KVA b) 3KVA c) 2KVA d) 1.5KVA

(Ans: c)

5) If the total load of an installation is 9000VA the capacity of DG set required is

a) 12KVA b) 10KVA c) 15KVA d) 25KVA

(Ans: c)

6) If the load of signals at station is 1600VA the required capacity of CVT will be

a) 2.5 KVA b) 3KVA c) 2KVA d) 1.5KVA

(Ans: c)

7) If the load of track circuit at station is 600VA the required number of Transformers (230/110) will be

a) 2 nos @ 500VA b) 3 nos @ 500VA c) 2 nos @ 1KVA d) 2 nos @ 1.5KVA

(Ans: b)

8) The relay internal load of station is 16.5A how many DC-DC conv modules be needed for it in the IPS

a) 2Nos@ 5A b) 3nos @ 5A c) 4nos @ 10A d) 6nos @ 5A

(Ans : d)

9) At a station with conventional charging system, if a point circuit has a load of 12Amps, backup time needed is 6Hours & D.O.D permitted is 70%, then the required capacity for point operation shall be

a) 200AH b) 80AH c) 120AH d) 300AH

(Ans: c)

10) The capacity of charger required to charge a battery of 120AH shall be

a) 10A b)15A c) 20A d) 30A

(Ans: d)

11) At a station with conventional charging system, if there are 250 Q style relays for internal circuit and 60% relays pickup in peak load condition, backup time needed is 6Hours & D.O.D permitted is 70%, then the required capacity for relay operation shall be

a) 120AH

b) 80AH

c) 180AH(R)

d) 120AH

(Ans: d)

12) If the load of signal circuit at a station is 1600VA then the capacity of Inverter should be -----

a) 2KVA

b) 1.5KVA

c) 2.5KVA

d) 2KVA

(Ans: d)

13) If the load on the secondary side of a track transformer is 1200VA considering 85% of transformer efficiency, the primary load shall be ----- approximately

a) 1500 VA

b) 1300VA

c) 1600 VA

d) 1250VA

(Ans: a)

Objective Questions

Chapter 1: Multiple Unit Colour Light Signal

1. The light units are specifically designed to avoid _________ effects in sunlight (c)
   a) phantom
   b) double indication
   c) both a& b
   d) over lighting

2. The number of lens used in colour light signal are (d)
   a) 3
   b) 4
   c) 5
   d) 2

3. Night aspect and day aspect are _________ in colour light signal (b)
   a) Different
   b) Same
   c) Changes with climate
   d) Difficult to predict

4. colour light signal are made with ___________ material (b)
   a) Aluminum and iron
   b) Cast iron and sheet metals
   c) Aluminum and Cast iron
   d) Both a & c

5. _____________ beam of light is produced by colour light signal (d)
   a) High intensity
   b) Low intensity
   c) Great penetrating power
   d) Both a & c

6. Colour light signals fails due to moving parts in signal unit (a)
   a) Wrong
   b) Correct
   c) Partially correct
   d) Both b & c

7. _________ number of moving parts are in colour light signals (d)
   a) 5
   b) 6
   c) 7
   d) Only door

8. Backgrounds such as trees and buildings _______ backgrounds colour light signals. (b)
   a) Bad
   b) Good
   c) No idea
   d) Both a & b

9. Aspects can be displayed at driver's __________ (a)
   a) eye level
   b) below eye level
   c) above eye level
   d) both b& c

10. In colour light signals cable termination box is provided at ______________ (a)
    a) Above mounting socket
    b) Below mounting socket
    c) Not available
    d) Both b & c

11. Breathing holes are also provided on the cover, one for each compartment to ensure _______ (c)
    a) lighting
    b) sun light
    c) ventilation
    d) both b & c

12. Inside the signal unit each compartment should be painted with __________ colour. (c)
    a) Black
    b) Yellow
    c) White
    d) Green

13. To ensure good visibility it is essential that the light unit is focused to align the beam of light towards the ________ (a)
    a) Driver
    b) Guard
    c) Passengers
    d) All a, b & c

14. Sighting Apertures are provided on the __________ of the signal units on terminal box (two numbers) (d)
    a) Left side
    b) No side
    c) All sides
    d) Right side

15. Number of Lens used in colour light signal (c)
    a) 5
    b) 3
    c) 2
    d) 4
16. _____ signal lamp is used for OFF aspect when aspect control circuit has cascading (b)
    a) SL21
    b) SL18
    c) SL35
    d) BOTH A& C
17. The signal lamp to be used in directional indicator is ______ (a)
    a) SL33
    b) SL35
    c) SL13
    d) SL25
18. The signal lamp terminal voltage shall not be more than _________ of rated voltage. (c)
    a) 95%
    b) 80%
    c) 90%
    d) 100%
19. The No load current of a signal transformer shall not be more than ______ (c)
    a) 5 mA
    b) 10 mA
    c) 15 mA
    d) 20 mA
20. The power ratting of a signal transformer is ________ (d)
    a) 400 VA
    b) 4 VA
    c) 4000 VA
    d) 40 VA
21. The tapping on secondary side of signal transformer is/are (d)
    a) 0,0.5 & 13 V
    b) 1,14.5 & 16 V
    c) 11,12 & 15 V
    d) Both a & b

22. Diameter of tubular post in colour light signals is ________ (a)
    a) 140 mm
    b) 150 mm
    c) 160 mm
    d) 170 mm

23. Diameter of signal base in colour light signals is ________ (c)
    a) 140 mm
    b) 150 mm
    c) 160 mm
    d) 170 mm

24. Diameter of inner colourd lens in colour light signals is ________ (c)
    a) 213 mm
    b) 200 mm
    c) 140 mm
    d) 100 mm

25. Diameter of Outer lens in colour light signals is ________ (a)
    a) 213 mm
    b) 200 mm
    c) 140 mm
    d) 100 mm

26. % Regulation measured on secondary side shall not be more than ______ (a)
    a) 15%
    b) 20%
    c) 25%
    d) 30%

Chapter 2: Signal Aspect Control Circuits

1. For 2-aspect signal, _____ no. of control relay is required. (d)
   a) 3
   b) 5
   c) 7
   d) 1

2. For 3-aspect signal, _____ no. of control relay are required. (c)
   a) 4
   b) 6
   c) 2
   d) 8

3. For 4-aspect signal, _____ no. of control relay are required. (a)
   a) 3
   b) 5
   c) 7
   d) 1

4. Energisation of HR relay connects "OFF" Aspect ________ indication. (d)
   a) Green
   b) Red
   c) Pink
   d) Yellow

5. For 3-aspect signal control relays used are _________ & __________ (a)
   a) HR & DR
   b) RR & DR
   c) HR & RR
   d) Both a & c

6. Front contact of _____ relay is used for green aspect lamp circuit. (b)
   a) RR
   b) DR
   c) HR
   d) Both a & c

7. Front contact of _____ relay is used for Yellow aspect lamp circuit (c)
   a) RR
   b) DR
   c) HR
   d) Both a & b

8. HR ↑ + HHR ↑+ DR ↓ gives _______ indication in 4-aspect signal control circuit (a)
   a) HHG
   b) HG
   c) RG
   d) DG

9. Three-Aspect Distant Signal Control Circuit (PERMISSIVE SIGNAL) __________ indication will appear when DR ↓. (a)
   a) HG
   b) DG
   c) HHG
   d) RG

10. HR ↑ + HHR ↓ + DR ↑ gives Green indication. This method is used in ________ Block working. (d)
    a) Automatic
    b) One train only
    c) Pilot
    d) Absolute

11. HR ↑ + HHR ↑ + DR ↑ gives Green indication. This method is used in ________ Block working. (a)
    a) Automatic
    b) One train only
    c) Pilot
    d) Absolute

12. HR ↑ + DR ↓ gives ______indication. (d)
    a) Green
    b) Red
    c) Pink
    d) Yellow

13. HR ↓ gives ______indication. (b)
    a) Green
    b) Red
    c) Pink
    d) Yellow

Chapter 3: Signal Indications Circuits

1. In potential drop method, the indications connected across the resistor in __________ (b)
   a) Series
   b) Parallel
   c) Perpendicular
   d) Hexagonal

2. I ï type transformer is used in _______ side of signal transformer (b)
   a) Secondary
   b) Primary
   c) Top
   d) Bottom

3. ECR MEANS (c)
   a) ELECTRONIC relay
   b) Current relay
   c) Lamp checking relay
   d) Lamp cooled relay

4. _____ types of current transformers are in use over Indian railways (c)
   a) 1
   b) 2
   c) 3
   d) 4

5. The transformer mentioned below is not used in IR (c)
   a) H-type
   b) I ï type
   c) J ï type
   d) L ï type

6. H ï type transformer is used in _______ side of signal transformer (a)
   a) Secondary
   b) Primary
   c) Top
   d) Bottom

7. RECR is connected _______ side of signal transformer (b)
   a) Secondary
   b) Primary
   c) Top
   d) Bottom

8. HECR is connected _______ side of signal transformer (d)
   a) Secondary
   b) Top
   c) Bottom
   d) Primary

9. DECR is connected _______ side of signal transformer (d)
   a) Secondary
   b) Top
   c) Bottom
   d) Primary

10. ______ no: methods are adopted for repeating signal aspects. (c)
   a) 1
   b) 2
   c) 3
   d) 4

Chapter 4: Triple Pole Lamps

1. Glowing of signalling lamps are the main tools for giving proper communication to driver through the indication in ________ fashion. (c)
   a) Verbal
   b) Audible
   c) Nonverbal
   d) Both a & b

2. Railway signalling failures cause hamper the punctuality of the _______ running. (b)
   a) Auto
   b) train
   c) Aeroplane
   d) Taxi

3. In colour light Signalling, where there is no cutting-in arrangement, lamps______, 12V/33W double filament 3-pin are used. (c)
   a) SL-20
   b) SL-31
   c) SL-21
   d) SL-40

4. In colour light Signalling, where there is cutting-in arrangement, lamps ________ 12 V / 24 W single filament 2-pole 3-pin lamps are used for OFF aspect. (a)
   a) SL 18
   b) SL-31
   c) SL-40
   d) SL-20

5. the schedule of replacement of signal lamp is ______________ for ON aspects (d)
   a) 50 days or 2000 hours
   b) 25 days or 2000 hours
   c) 35 days or 2000 hours
   d) 45 days or 1000 hours

6. the schedule of replacement of signal lamp is ______________ for OFF aspects. (b)
   a) 100 days
   b) 90 days
   c) 60 days
   d) 50 days

7. Triple pole lamps and Double pole lamps can be interchanged with changing holders (b)
   a) Only in FSS
   b) not possible in any signal
   c) only in LSS
   d) possible in Distant signal

8. In Triple pole lamps The auxiliary filament lighted as soon as the main filament is ____(d)
   a) Glowing
   b) Decrease brightness
   c) Both a & b
   d) fused.

9. _______ will appear in the cabin/Panel when main filament is fused so that lamp can be replaced before the failure of auxiliary filament. (d)
   a) Alarm only
   b) Indication only
   c) No Alarm / Indication
   d) Both a & b

10. With Triple pole lamps the chances of signal becoming no light due to lamp fusing are ________ (b)
    a) Increased
    b) drastically reduced.
    c) slightly Increased
    d) drastically Increased

11. In Triple pole lamps, there are two filaments of _________ wattage. (d)
    a) Different
    b) High and low
    c) Very High and very low
    d) Same or equal

12. MECR means (a)
    a) Main lamp checking relay
    b) Multi purpose current relay
    c) Miniature cascading relay
    d) Multi electronic computing relay

13. MECR picks up when ___________ filament lits. (c)
    a) Auxiliary
    b) Supporting
    c) Main
    d) Either a or b

14. auxiliary filament gets supply through_______________ in series with the MECR drop contact. (a)
    a) Resistance
    b) Condenser
    c) Diode
    d) IC

15. MECR is normally up and made _______ to avoid wrong indication at the time of aspect changing (b)
    a) Quick to release
    b) slow to release
    c) slow to pickup
    d) quick to pickup

16. SL 35A 12 V / 24 W, 24 W 1000 hours Normally used for ________Aspect in CLS. (d)
    a) Red
    b) Blue
    c) Orange
    d) OFF

17. SL 35AL (Longer life) 12 V / 24 W, 24 W ______ hours. (c)
    a) 3000
    b) 4000
    c) 5000
    d) 6000

18. SL 35BL (Longer life) 12 V / 24 W, 24 W ______ hours. (c)
    a) 3000
    b) 4000
    c) 5000
    d) 6000

19. The lamp given below is a three pin & double pole & double filament (d)
    a) SL-35A
    b) SL-35B
    c) SL-18
    d) SL-17

20. The lamp given below is a three pin & double pole & double filament (b)
    a) SL-35A
    b) SL-21
    c) SL-35B
    d) SL-18

21. The lamp given below is a three pin & triple pole & double filament (a)
    a) SL-35A
    b) SL-21
    c) SL-17
    d) SL-18

22. The lamp given below is a three pin & triple pole & double filament (c)
    a) SL-5
    b) SL-21
    c) SL-35AL
    d) SL-18

23. The lamp given below is a three pin & triple pole & double filament (d)
    a) SL-21
    b) SL-17
    c) SL-18
    d) SL-35B

24. The lamp given below is a three pin & triple pole & double filament (b)
    a) SL-21
    b) SL-35BL
    c) SL-18
    d) SL-5

25. Main filament Proving Relay is represented as (a)
    a) GXPR
    b) HECR
    c) RECR
    d) DECR

Chapter 5: Inner Distant Signal

1. In MACLS system, the driver of a train is warned of approaching a stop signal by _______ signal. (b)
   a) Calling On
   b) Permissive
   c) Shunt
   d) Route

2. Distant signal is located at an adequate distance in _____ of the stop signal. (a)
   a) Rear
   b) Advance
   c) Top
   d) Bottom

3. Permissive signal is provided for _______ signal in advance (c)
   a) Passenger Warning board
   b) Goods Warning board
   c) Stop
   d) Express Warning board

4. The distance between distant signal and FSS in MACLS tertiary is _________. (d)
   a) 2 KM
   b) 3 KM
   c) 4 KM
   d) 1 KM

5. Distant signal Pre-warns the_________. (a)
   a) stop signal
   b) Calling On
   c) Shunt
   d) Route

6. A general rule (GR) 3.07(6) stipulates that "Wherever necessary more than one ______ signal may be provided (a)
   a) Distant
   b) Advance starters
   c) FSS
   d) LSS

7. In double distant territory the outer most signal is called __________ (c)
   a) inner distant signal
   b) FSS
   c) Distant
   d) LSS

8. In double distant territory the inner signal is called ___________ (a)

   a) inner distant signal
   b) FSS
   c) Distant
   d) LSS

9. In double distant territory the outer most signal is called ________ & the inner signal is called _______ (a)

   a) Distant & inner distant signal
   b) Distant & FSS signal
   c) LSS & inner distant signal
   d) FSS & LSS signal

10. In MACLS the distant signal can be placed at an _____ distance in the rear of home signal (d)

    a) More
    b) Less
    c) Short
    d) Adequate

11. Distant signal shall be placed at _____from the inner distant signal. (b)

    a) 2 KM
    b) 1 KM
    c) 4 KM
    d) 3 KM

12. In double distant territory the ______ shall be dispensed (c)

    a) Passenger Warning board
    b) Goods Warning board
    c) Both a & b
    d) SLB

13. The _____ signals are also provided with second distant signals (a)

    a) IBS
    b) LSS
    c) CALLING ON
    d) SHUNT

14. Interlocked _____ gates which are also provided with second distant signals (a)

    a) level crossing
    b) ROB
    c) RUB
    d) Both b & C

15. In Single Distant Territory yellow on distant indicates (b)
    a) May stop at main line starter
    b) May stop at home
    c) run through
    d) stop at distant

16. In Single Distant Territory double yellow on distant indicates with FSS yellow (a)
    a) May stop at main line starter
    b) May stop at home
    c) run through
    d) stop at distant

17. In Single Distant Territory Green on distant indicates (c)
    a) May stop at main line starter
    b) May stop at home
    c) run through
    d) stop at distant

18. In Double Distant Territory double yellow on distant and red on FSS indicates (b)
    a) May stop at main line starter
    b) May stop at home
    c) run through
    d) stop at distant

19. In Double Distant Territory green on distant and Yellow on FSS indicates (a)
    a) May stop at main line starter
    b) May stop at home
    c) run through
    d) stop at distant

20. In Double Distant Territory green on distant and green on FSS indicates (c)
    a) May stop at main line starter
    b) May stop at home
    c) run through
    d) stop at distant

21. In Double Distant Territory green on distant and Yellow on inner distant indicates (a)
    a) May stop at main line starter
    b) May stop at home
    c) run through
    d) stop at distant

22. In Double Distant Territory green on inner distant and green on FSS indicates (c)

a) May stop at main line starter
b) May stop at home
c) run through
d) stop at distant

23. Normal Aspect of distant in Double Distant Territory (c)

a) Caution
b) Proceed
c) Attention
d) Stop

24. Normal Aspect of inner distant in Double Distant Territory (a)

a) Caution
b) Proceed
c) Attention
d) Stop

25. Normal Aspect of FSS in Double Distant Territory (c)

a) Caution
b) Proceed
c) Attention
d) Stop

Chapter 6: Led Signal Units

1. Signals are provided to guide the _______driver for safe journey. (a)
   a) rail engine
   b) car
   c) lorry
   d) bus

2. Life of LED signals is __________ hours. (d)
   a) 5 lakh
   b) 2 lakh
   c) 4 lakh
   d) 1 lakh

3. In LED light sources are solid state p-n junction _________devices. (c)
   a) Insulator
   b) Conductor
   c) Semiconductor
   d) Resistor

4. In LED convert excess energy into ______. (b)
   a) Sound
   b) Light
   c) Taste
   d) Smell

5. The colour of emitted light depend upon __________ & ________used in LED (a)
   a) wavelength & materials
   b) frequency & company
   c) resistance & condenser
   d) ohms & hertz

6. LED lamp is ________ and do not need external lenses or periodic focussing. (d)
   a) Un focused
   b) Over focused
   c) Out of focused
   d) Pre-focused

7. LED lamps are ________with existing signal unit (b)
   a) Not compatible
   b) Compatible
   c) Requires alteration
   d) Both a & c

8. Traffic hazards while bulbs are being changed by maintenance staff are ___ with LED (c)
   a) Increased
   b) Over Increased
   c) Eliminated
   d) No change

9. LED signals use _____energy. (a)
   a) Less
   b) More
   c) High
   d) Very high

10. The current required to pick up LED ECR is (d)
    a) 20 mA
    b) 60 mA
    c) 80 mA
    d) 108 mA

11. Maintenance costs ________ as they don't need frequent replacement. (d)
    a) Increased
    b) Un-bearable
    c) Enhanced
    d) Reduced

12. LED Signal aspect unit comprises of a cluster of _________ in series and parallel combinations. (c)
    a) Condenser
    b) Resistance
    c) LEDs
    d) BY 126 diode

13. All aspects (except route and shunt) use ____ arrays for higher noise immunity and also provide the redundancy (b)
    a) 1
    b) 2
    c) 3
    d) 4

14. The number of LEDꞌs used should not be less than ___ for RED & YELLOW aspects(c)
    a) 40
    b) 50
    c) 60
    d) 80

15. The number of LEDôs used should not be less than _____ for GREEN aspect (a)
    a) 30
    b) 40
    c) 50
    d) 60

16. The number of LEDôs used should not be less than _____ for Shunt signal (c)
    a) 11
    b) 12
    c) 13
    d) 14

17. The minimum illumination of LED signal units measured at a distance of 1.5 metres in axial direction is _______ lux for RED aspect. (b)
    a) 40
    b) 50
    c) 60
    d) 70

18. The minimum illumination of LED signal units measured at a distance of 1.5 metres in axial direction is _______ lux for YELLOW aspect (c)
    a) 80
    b) 90
    c) 100
    d) 110

19. The minimum illumination of LED signal units measured at a distance of 1.5 metres in axial direction is _______ lux for GREEN aspect (a)
    a) 100
    b) 110
    c) 120
    d) 130

20. The visibility of each main aspect of LED signal unit ___ in clear day light (c)
    a) 400m
    b) 500m
    c) 600m
    d) 800m

21. The visibility of RED aspect of LED signal unit ____ in clear day light (c)
    a) 400m
    b) 500m
    c) 600m
    d) 800m

22. The visibility of YELLOW aspect of LED signal unit _____ in clear day light (c)
    a) 400m
    b) 500m
    c) 600m
    d) 800m

23. The visibility of GREEN aspect of LED signal unit _____ in clear day light (c)
    a) 400m
    b) 500m
    c) 600m
    d) 800m

24. Visibility of Route indicator is ______ with LED signals (a)
    a) 400m
    b) 500m
    c) 600m
    d) 800m

25. _______ ECR can be used for LED AC signal latest version (b)
    a) Conventional ECR
    b) LED AC ECR
    c) LED ECR
    d) Both b & c

26. LED signal lighting units display area Main and Calling-On signals are ___________ mm diameter. (b)
    a) 100
    b) 125
    c) 150
    d) 200

27. LED signal lighting units display area Route and Shunt signals are ___ mm diameter (c)
    a) 65
    b) 75
    c) 85
    d) 95

28. Normal working voltage of LED signal unit is / are _______ (a)
    a) 110 V AC
    b) 110V DC
    c) 230V AC
    d) 230V DC

29. Fuse to be used in LED signal unit installation is / are _______ (a)

a) 630 mA

b) 2 A

c) 1.5 A

d) 230 mA

Chapter 7: Automatic Colour Light Signalling

1. In ___________Block Working is a system of train working in which movement of the trains is controlled by the automatic stop signals. (b)
   a) Absolute
   b) Automatic
   c) One train only
   d) Pilot guard

2. Signals are operated ______ by the passage of trains into and out of the automatic signalling sections (c)
   a) Manually
   b) BY S & T staff
   c) Automatically
   d) Both a & b

3. The line is track circuited throughout its length, each section of which is governed by an _______ (a)
   a) Automatic Stop Signal
   b) FSS
   c) LSS
   d) Starter

4. The movement of trains into Automatic Block Working is controlled by ____ signals. (d)
   a) Shunt
   b) Calling-On
   c) Both a & b
   d) Stop

5. No Automatic Signal assumes 'OFF' unless the line is clear not only upto the stop signal ahead, but also an ________ distance beyond it. (c)
   a) Over lap
   b) Adequate
   c) Both a & b
   d) Isolation

6. The Automatic Signalling arrangement facilitates to _________the Line capacity (d)
   a) Reduce
   b) Decrease
   c) Hamper
   d) Increase

7. The Automatic Signalling arrangement facilitates to Increase the ________. (c)
   a) Section capacity b) Division capacity
   c) Line capacity d) All a & c

8. The adequate distance /overlap in Automatic Block Working, shall not be less than ___ metres (c)
   a) 180
   b) 200
   c) 120
   d) 300

9. The track divided into sections in Automatic Block Working are called the _____ (a)
   a) Automatic Signalling Sections
   b) Absolute Signalling Sections
   c) One train only Signalling Sections
   d) Pilot guard Signalling Sections

10. The section between two automatic stop signals is divided into minimum ___ portions (b)
    a) 1
    b) 2
    c) 3
    d) 4

11. The first portion between two automatic stop signals is termed as _________ (d)
    a) Isolation
    b) Berth Track
    c) Minor portion
    d) over lap

12. The second portion between two automatic stop signals is termed as _________ (b)
    a) Isolation
    b) Berth Track
    c) Minor portion
    d) over lap

13. Type of Signals provided in Automatic Block Working are _________ (b)
    a) TACLS
    b) MACLS
    c) Semaphore lower quadrant
    d) Semaphore upper quadrant

14. The numbering in _______ Block Working are as ODD numbers in one direction& even numbers in the other direction. (b)
    a) Absolute
    b) Automatic
    c) One train only
    d) Pilot guard

15. Track circuits used in Automatic Block Working are of _____ type (d)
    a) AC single rail or double rail
    b) DC single rail or double rail
    c) Electronic track circuit
    d) Any one a/b/c

16. Number of signaling sections are required to be clear to get attention aspect in Automatic Block Working with 4 aspect signaling. (a)
    a) 1 + over lap
    b) 2 + over lap
    c) 3 + over lap
    d) 4 + over lap

17. Number of signaling sections are required to be clear to get caution aspect in Automatic Block Working with 4 aspect signaling. (a)
    a) 1 + over lap
    b) 2 + over lap
    c) 3 + over lap
    d) 4 + over lap

18. Number of signaling sections signaling sections are required to be clear to get proceed aspect in Automatic Block Working with 4 aspect signaling. (c)
    a) 1 + over lap
    b) 2 + over lap
    c) 3 + over lap
    d) 4 + over lap

19. Number of signaling sections are required to be clear to get caution aspect in Automatic Block Working with 3 aspect signaling. (a)
    a) 1 + over lap
    b) 2 + over lap
    c) 3 + over lap
    d) 4 + over lap

20. Number of signaling sections are required to be clear to get proceed aspect in Automatic Block Working with 3 aspect signaling. (b)
    a) 1 + over lap
    b) 2 + over lap
    c) 3 + over lap
    d) 4 + over lap

21. To pick HYR1/HR of S1 in Automatic Block Working the GECR of _____ up-contact is used. (d)
    a) Rear signal
    b) Front signal
    c) No signal
    d) Advance signal

22. GECR proves that signal a head/ in advance is _______ (not Blank) (b)
    a) Blank
    b) Not Blank
    c) Not glowing
    d) Fused

23. Proving of GECR up-contact in HR/HYR of signal in rear is called _______ circuit. (c)
    a) Green Lamp Protection
    b) Yellow Lamp Protection
    c) Red Lamp Protection
    d) Route Lamp Protection

24. Displaying next restrictive aspect when any aspect fused in a signal unit is called _______ (b)
    a) Red Lamp Protection
    b) Cascading circuit.
    c) Green Lamp Protection
    d) Yellow Lamp Protection

25. DECR _____ contact is used across DR back contact in cascading circuit. (b)
    a) Front
    b) Back
    c) Arm
    d) Both a & c

26. HECR _____ contact is used across HR back contact in cascading circuit (c)
    a) Front
    b) Arm
    c) Back
    d) Both a & b

27. DECR & HECR back contact are used across DR & HR back contact to glow ______ aspect in cascading circuit (c)
    a) Green
    b) Yellow
    c) Red
    d) Route

28. If DG fuses ______ aspect will glow in 3-aspect cascading circuit. (b)
    a) Green
    b) Yellow
    c) Red
    d) Route

29. If HG fuses ______ aspect will glow in 3-aspect cascading circuit (c)
    a) Green
    b) Yellow
    c) Red
    d) Route

30. If DG fuses ______ aspect will glow in 4-aspect cascading circuit (d)
    a) Green
    b) Yellow
    c) Red
    d) Double Yellow

31. If HHG fuses ______ aspect will glow in 4-aspect cascading circuit (b)
    a) Green
    b) Yellow
    c) Red
    d) Double Yellow

32. If HG fuses ______ aspect will glow in 4-aspect cascading circuit. (c)
    a) Green
    b) Yellow
    c) Red
    d) Double Yellow

33. Red lamp protection provided to ________________ (d)
    a) Protect blank signal
    b) prevent blanking of signal
    c) Replacement of signal to ON
    d) a & b both

Chapter-1 : Signal Control Circuits

1. In vital circuit design _____________ Principle used for designing of circuits (B)
   A) Open circuit
   B) Closed circuit
   C) Both open & closed
   D) Neither closed Nor open circuit

2. In Non-vital circuit design __________ Principle used for designing of circuits (C)
   A) Open circuit
   B) Closed circuit
   C) Both open & closed
   D) Neither closed Nor open circuit

3. Signal Control Circuits are designed in accordance with the_________ (D)
   A) Essentials of interlocking
   B) Signal Engineering Manual
   C) General Rules
   D) All the above

4. For clearing the Home signal ____________ required (D)
   A) Points in the route
   B) Isolation points
   C) Overlap points
   D) All the above

5. For clearing the Starter signal ____________ required (B)
   A) Points in the route & overlap
   B) Points in the route & isolation points
   C) Points in the route, isolation points & overlap points
   D) Points in the route only

6. For clearing the Shunt signal ____________ required (D)
   A) Points in the route & overlap
   B) Points in the route & isolation points
   C) Points in the route, isolation points & overlap points
   D) Points in the route only, Isolation points not compulsory

7. For clearing Home signal __________________ Track circuits are required (A)
   A) Track circuits in the route up to next signal and Overlap tracks.
   B) Tracks up to next signal in advance in the route
   C) Tracks up to next signal in advance in the route excluding berthing track
   D) One track circuit in advance of the signal

8. For clearing starter signal __________________ Track circuits are required (B)

A) Track circuits in the route up to next signal and Overlap tracks.

B) Tracks up to next signal in advance in the route

C) Tracks up to next signal in advance in the route excluding berthing track

D) One track circuit in advance of the signal

9. For clearing shunt signal __________________ Track circuits are required (C)

A) Track circuits in the route up to next signal and Overlap tracks.

B) Tracks up to next signal in advance in the route

C) Tracks up to next signal in advance in the route excluding berthing track

D) One track circuit in advance of the signal

10. In case of stations/yards where no track circuit or axle counter is provided on berthing tracks ____________ (A)

A) A line verification box can be used to verify the clearance of the tracks

B) station master manually ensures the berthing track and receives train on signal

C) Berthing tracks not proved in signal control circuit

D) Train can receive on Non-signal Movement only

11. For Major Yards Home and CO-ON signals having _________________ (B)

A) Common slot

B) Separate slots

C) slot for Home signal only

D) Slot for CO-ON signal only

12. The relays used to prove the sequential occupation & clearance of track circuits & release of the route after passage of train _________ (A)

A) UYR

B) UCR

C) UHR

D) UGR

13. Route Indicator lamp checking relay UECR picks up when minimum __________ No of Lamps/ LEDs lit. (B)

A) 2

B) 3

C) 4

D)5

14. In signal control circuit __________________ band Contact of signal lever Concerned is proved on both +ve side and on -ve side of the relay (A)

A) R

B) N

C) Both N & R

D) Neither N nor R

15. In signal control circuit________________ band contact of signal lever concern bridged or bye passed with signal control relay coil. (B)

A) R

B) N

C) Both N & R

D) Neither N nor R

16. In signal control circuit mandatory to prove ________________ (B)

A) Both Signal in advance & rare should not blank.

B) Signal in advance should not blank

C) Signal in rare should not blank

D) Neither advance nor rare signal condition proved

17. After clearing the signal if train passed the signal, OFF aspect automatically goes to ON aspect and signal will not reclear even signal lever in reverse position. This is achieved by _____ Relay (C)

A) TRSR

B) TLSR

C) TSR

D) TPZR

18. After taking OFF signal if train cleared the route, signals assumes to ON aspect and signal will not reclear even signal lever in reverse position. This is achieved by __________ Relay (C)

A) TRSR

B) TLSR

C) TSR

D) TPZR

19. TSR is also called as____________ (D)

A) SR

B) LSR

C) ASR

D) Both A & B

20. The TSR is controlled by__________________________ (D)

A) first track circuit immediately in advance of the signal

B) first two track circuits immediately in advance of the signal

C) first track circuit immediately in advance of the signal and the Reverse position of the signal lever

D) First track circuit immediately in advance of the signal and the Normal position of the signal lever

21. TSR will ensure___________ (C)

A) One Route one signal movement

B) One signal one route movement

C) One signal one movement

D) One signal multi route movement

22. After picking TSR, TSR sticks Though ____________________ (A)

A) TSR front contact

B) TSR back contact

C) TSR front & Knob Normal

D) TSR front & Knob Reverse

23. In TSR circuit knob contact bye-passed or bridged with __________contacts S (A)

A) TSR front

B) TSR back

C) Both TSR front & back

D) Neither front Nor back

24. TSR ___________ (D)

A) Cannot be combined

B) can be Common to more than one signal if they are conflicting in nature

C) can be Common to more than one signal if they have common controlling track circuit

D) Both B & C

25. On Single line, Home and opposite Advance Starter signals (B)

A) TSRs cannot be combined

B) TSR Can be common

C) Advance starter donot have TSR

D) Home signal donot have TSR

26. Starter signal and shunt below it (B)

A) TSRs cannot be combined

B) Can be common

C) Advance starter donot have TSR

D) Home signal donot have TSR

27. Identify false statement (C)

A) When a signal is controlled by more than one agency it cannot be taken OFF unless consent from other agencies is obtained

B) slot will be transmitted from one cabin to other cabin, only when points correctly set

C) With one slot we can receive multiple trains

D) Home signal and CO-ON having separate slots

28. Identify false statement (C)

    A) When shunt signal is provided on a separate post it displays ON and OFF aspects

    B) When shunt signal provided below a stop signal it displays OFF aspect only

    C) When shunt signal provided below a stop signal it displays ON and OFF aspects

    D) For clearing shunt signal Points in the route only, Isolation points not compulsory

29. Maximum number of routes which can be indicated by using Stencil type route indicator is _________ (C)

    A) 2 B) 3 C) 4 D) 5

30. Visibility of __________________________ indicator is very poor. (A)

    A) Stencil type route indicator

    B) Multi lamp type route indicator

    C) Junction Type Route Indicator

    D) Both multi & Junction Type Route Indicator

31. Multi lamp route indicator ________________ (C)

    A) first type consisting of 35 lamps

    B) Second type consisting of 49 lamps

    C) Both A&B

    D) consisting 64 lamps

32. Multi lamp route indicator with 35 lamps ________________ (B)

    A) can exhibit any letters and numerals up to 19

    B) can exhibit any letters and numerals up to 9

    C) can exhibit any letters and numerals up to 49

    D) can exhibit 4 letters and numerals up to 9

33. Multi lamp route indicator with 49 lamps ________________ (A)

    A) can exhibit any letters and numerals up to 19

    B) can exhibit any letters and numerals up to 9

    C) can exhibit any letters and numerals up to 49

    D) can exhibit 4 letters and numerals up to 9

34. ____called as position light type route indicators or direction type route indicator (C)

    A) stencil type route indicator

    B) Multi lamp type route indicator

    C) junction Type Route Indicator

    D) Both multi & Stencil Type Route Indicator

35. When train receiving to main line route indicator will not displayed in (C)

    A) stencil type route indicator

    B) Multi lamp type route indicator

    C) junction Type Route Indicator

    D) Both multi & Stencil Type Route Indicator

36. King lever is used to___________________ (C)

A) Convert Manual signal to Auto signal

B) Convert Auto signal to Manual signal

C) Both A &B

D) Auto operation of points in case track circuit failed

37. In Semi automatic Signalling In TSR circuit Signal lever Normal Band contacts bridged with ____________ contact to reclear signal automatically (B)

A) King Lever Normal band

B) King Lever Reverse band

C) Both King lever Normal & Reverse band

D) king Levers Neither Normal Nor Reverse bands

38. Identify False statement (B)

A) When Auto signalling in operation óAômarker light lits

B) when manual signalling in operation óAômarker light lits

C) King Lever Reverse contact is made use of in lighting up the ñAòmarker lamps

D) when manual signalling in operation óAômarker light not lits

39. Identify False statement (B)

A) For energising relay single cutting is used, Single fault can cause the relay to pick up

B) For energising relay double cutting is used, Single fault can cause the relay to pick up

C) For energising relay double cutting is used, double fault can cause the relay to pick up

D) Cross protection is used to prevent the energisation of relay in case double side fault.

40. Junction type Route Indicator lits _____ (B)

A) for all the lines

B) only for Loop lines

C) only for Main line

D) only for starter signals

41. Signal with Multi Lamp type Route indicator___________ (A)

A) Lits prior to main aspect is not necessary

B) Lits prior to main aspect is necessary

C) Lits after litting a marker

D) Lits prior to litting a marker

42. In TSR circuit TSR stick contact is bye passed with _______________ contact (C)

A) TPR pickup B) TPR pick up & knob

C) Knob D) TPR Drop contact

43. IN HR circuit TSR ________________contact used

A) Front B) Back

C) Both front & back D) Neither Front nor back

Chapter-2 : Electrical Lockings on Points and Signal Levers

1. In Electro- Mechanical signalling Lock bar function replaced by ________ (B)
   A) Indication locking
   B) Track locking
   C) fouling bar
   D) Signal lever

2. Signal Indication locking is Effective in ___________ (B)
   A) Mechanical Interlocking
   B) Electro-Mechanical Interlocking
   C) Both in Mechanical & Electro-Mechanical Interlocking
   D) Neither Mechanical Nor Electro-Mechanical interlocking

3. Point Indication Locking is effective in ________ (B)
   A) Mechanical Interlocking
   B) Electro-Mechanical Interlocking
   C) Both in Mechanical & Electro-Mechanical Interlocking
   D) Neither Mechanical Nor Electro-Mechanical interlocking

4. Points Track Locking is effective in ________ (B)
   A) Mechanical Interlocking
   B) Electro-Mechanical Interlocking
   C) Both in Mechanical & Electro-Mechanical Interlocking
   D) Neither Mechanical Nor Electro-Mechanical interlocking

5. Electrical locking of levers is effective in _________ (B)
   A) Mechanical Interlocking
   B) Electro-Mechanical Interlocking
   C) Both in Mechanical & Electro-Mechanical Interlocking
   D) Neither Mechanical Nor Electro-Mechanical interlocking

6. Track locking is defined in ______________ (A)
   A) B.S.I.Spec.No.719-l936
   B) B.S.I.Spec.T19-1936
   C) B.S.I.Spec.No.719-l936
   D) B.S.I.Spec.No.619-l936

7. In Mechanical interlocking, track locking is effective on __________ (D)
   A) Point Lever controlling point machine
   B) Lock lever
   C) Fouling bar lever
   D) All the above

8. In Relay interlocking track locking is achieved at _____________ (D)

   A) Point initiation

   B) point control

   C) point operation level

   D) All the above

9. Point zone track circuit occupied by train point cannot be operated this locking is called __________ (D)

   A) Indication locking

   B) Back locking

   C) Approach locking

   D) Track locking

10. In Electro- Mechanical Interlocking _________________ (D)

    A) Lock bars are proved for locking points

    B) Lock bars are not provided

    C) Track circuits are provided for locking point

    D) B&C

11. In Electro- Mechanical interlocking Track locking provided ___________ (C)

    A) for point Reverse to Normal operation

    B) for point Normal to Reverse operation

    C) A&B

    D) Not provided

12. In Electro- Mechanical Interlocking, when point operating from reverse to Normal Track locking is Effective at __________ position of lever (C)

    A) B

    B) D

    C) E

    D) C

13. Identify the False statement (A)

    A) When Track centres are more than 15ô6ò(New work 17ô38ò) - fouling protection by track locking is necessary

    B) When Track centres are less than 15ô6ò(New work 17ô38ò) - fouling protection by track locking is necessary

    C) In case of cross over points, where two/three controlling track circuits are provided, all the track circuits are to be proved in track locking

    D) Track locking is provided on point lever such that the lever cannot be operated either from N to R or from R to N when the point zone track circuit is occupied by train

14. In Electro- Mechanical Interlocking track locking provided on _________ (B)

A) Point Lever only

B) point lever or Lock lever

C) signal lever only

D) Signal lever or Lock lever

15. Indication locking is defined in ________________ (B)

A) B.S.I.Spec.No.719-l936

B) B.S.I.Spec.T19-1936

C) B.S.I.Spec.No.719-l936

D) B.S.I.Spec.No.619-l936

16. An arrangement to prevent the full stroke of a lever in an interlocking frame until such time as the apparatus controlled by that lever has completed its movement. This locking is called _________________ (A)

A) Indication locking

B) Back locking

C) Approach locking

D) Track locking

17. Identify the false statement ___________________ (B)

A) Indication locking will be provided where there is no rigid connection between the lever and its function

B) Indication locking will be provided where there is rigid connection between the lever and its function

C) Indication locking purpose prevent out of correspondence between function position at site and control of that function

D) Indication locking is defined in B.S.I.Spec.T19-1936

18. In Relay Interlocking indication locking checked at _______________circuit (C)

A) UYR

B) UCR

C) ASR

D) HR

19. In Electro- Mechanical interlocking Indication Locking is provided on __________ (C)

A) Signal Lever

B) Point Lever

C) Both Signal & Point Lever

D) Neither Signal Nor Point Lever

20. The indication locking for point is effective at __ position for reverse to normal operation (A)

A) B

B) C

C) D

D) E

21. When combined Track and indication locking circuits are used separate _________ and _______ spot contact should be used instead of one ______ contact; otherwise, the indication locking may not function. (C)

A) A and B, AB

B) B and D, BD

C) A and E, AE

D) B and C, BC

22. In Electro- Mechanical interlocking indication locking for signal is effective at ______ position (A)

A) B

B) C

C) D

E) E

24 .In indication locking circuit of motor operated Semaphore Signal, ON aspect of signal is proved by ________ degree of arm contact. (A)

A) 0 to 5

B) 5 to 10

C) 80 to 90

D) 80 to 85

25. In eletrical interlocking, in the indication locking of first stop signal ____________ contacts used (B)

A) First stop signal ON aspect pick up or OFF aspect drop contacts only

B) Both First stop signal & distant signal ON aspect pick up or OFF aspect drop

C) distant signal ON aspect pick up or OFF aspect drop contacts only

D) Both First stop signal & ahead signal ON aspect pick up or OFF aspect drop contacts

26.______________ locking is provided on the signal lever to prevent the lever from going to normal position in the face of an approaching train (C)

A) Indication locking

B) Back locking

C) Approach locking

D) Track locking

27. In Electro- mechanical interlocking on Signal lever ________ lockings are provided (A)

A) Indication & Approach lockings

B) Approach & track lockings

C) Indication & track lockings

D) Indication, Approach & track lockings

28. Approach locking is effective _____________ position of signal lever (B)

A) A

B) B

C) C

D) E

29. Approach track circuits are proved in ____________________ circuit to ensure lever cannot be put back to normal when the approach track is occupied (A)

A) Back lock (B) L circuit

B) Indication Locking (ABDE) L

C) Indication Locking (BD) L

D) Indication Locking (AE) L

30. In Back locking Circuit, approach Track circuits & TSR contact Bridged with___________ Contacts (D)

A) Sequential proving relays (UYR) pick up & TSR Drop contacts

B) Emergency cancellation relay (JR) pickup

C) Sequential proving relays (UYR) pick up & TSR pickup contacts

D) Both A & B

31. For ensuring time delay in Electro-Mechanical interlocking __________ relays used (D)

A) AC vane driven clock type

B) Thermal type

C) Electronic type

D) All the above

32. In Electro mechanical when electronic timers are used for time delay, they are worked in _________ and their outputs are proved in __________ to prevent premature release in the event of failure of any one of the timers. (B)

A) parallel, parallel

B) Parallel, series

C) Both series

D) Series, series

33. After the train passes the signal, it shall not be possible for cabin man/SM to alter the route unless the train clears the entire route. This locking is called as (B)

A) Approach locking

B) Back locking or route locking

C) Track locking

D) Indication locking

34. In Electro- mechanical interlocking at signal lever B position _______________ lockings are provided (D)

A) Approach

B) Back

C) Indication

D) All the above

35. For designing sequential proving circuit, Minimum _____________ No of track circuits in succession is considered to avoid premature route release. (B)

A) ONE

B) Two

C) Three

D) Four

36. Identify false statement (B)

A) Once the route is released, all the UYRô s energized during train movement drops

B) Once the route is released, all the UYRs picks up

C) All UYRs back contacts proved in signal clearance circuit

D) UYRs once picked up, Kept in energised condition by stick path till the Route is released

37. Sectional route release adopted in_____________ (A)

A) Bigger yards

B) Small yards

C) All Yards

D) IN PI

38. In Sectional Route release first sub route will be controlled by ________________ (A)

A) Back lock (B) L circuit

B) ULSR

C) TSR

D) UYR

39. In Sectional Route release , after releasing first next sub routes will be controlled by _____________ (B)

A) Back lock (B) L circuit

B) ULSR

C) TSR

D) UYR

40. Sequential Proving Relays_____________________ (B)

A) Normally pick up, drops when train arrived sequentially

B) Normally drop, Picks up when train arrived sequentially

C) Normally pick up, drops when train arrived sequentially

D) Normally drop, Picks up after route releasing

41. For clearing signal ahead signal should not blank. This applies to ________ (D)

A) Home signal only

B) Calling on signal only

C) Starter signal

D) All the signal except calling on

42. In Electro- mechanical once sequential proving relays (UYRs) picked up stick through its own contact till _______________ (B)

A) Signal lever is reversed

B) Signal lever is normal

C) Point lever is normalised

D) Both Point and signal lever is normalised.

42. In Electro- Mechanical for cancellation of signal ,signal lever should be kept _____ position for Energisation of JR relay

A) N

B) R

C) B

D) A

Chapter-3 : Selection/Control Table

1. Identify the False statement (D)

   A) Approach track circuit length for Home signal is Normal Breaking Distance + Reaction Distance

   B) Approach track circuit length for Loop line Starters is Berthing Tracks

   C) Approach track circuit length for Shunt signal is the tracks from which train is expected to start

   D) Approach track circuit length for Main line Starters is Berthing Tracks only

2. Identify the False statement (B)

   A) For Red lamp protection ahead signal Aspect conditions proved in signal control circuit

   B) The Calling on Track circuit of home signal can be used as Approach track circuit

   C) The Loop line starter signal berthing track used as Approach track circuit

   D) For shunt signal Control and back lock track circuits are same.

3. Cancellation time for Advance starter is _______________ (A)

   A) 0 sec

   B) 60 sec

   C) 120 sec

   D) 180 sec

4. Identify False statement _______________ (A)

   A) CO-ON Provided with Approach Locking

   B) CO-ON Provided with Dead Approach Locking

   C) CO-ON signal cancellation time is 240 sec

   D) In CO-ON signal overlap points are not proved

5. Identify TRUE statement _______________ (A)

   A) For shunt signal Control and back lock track circuits are same

   B) For starter signal Control and back lock track circuits are same

   C) For CO-ON signal Control and back lock track circuits are same

   D) In CO-ON signal overlap points are proved

Chapter-4 : Crank handle, Siding control circuits and Calling ON Signal

1. Crank handle IN circuit (CHLR) ______ contacts of economiser push buttons used. (A)
   A) NC
   B) NO
   C) Both NO & NC
   D) Neither NO Nor NC

2. Crank handle EKT coil circuit ______ contacts of economiser push buttons used. (B)
   A) NC
   B) NO
   C) Both NO & NC
   D) Neither NO Nor NC

3. Crank handle EKT coil circuit ______ contacts of economiser push buttons used. (B)
   A) CHLR front
   B) CHLR back
   C) Both CHLR front & back
   D) UCR front & ASR back

4. Crank handle provided for_____________ (A)
   A) Operation of Electrically operated points
   B) operation of Mechanically operated point
   C) for operation of Both Electrical & Mechanical points
   D) for operation of mechanically operated siding points

5. Identify TRUE statement (C)
   A) Each and Every point have one crank handle
   B) Only one common crank handle provided for all the points
   C) Crank handles are grouped to achieve optimum flexibility
   D) crank handle can be extracted from EKT after clearing the signal

6. Siding YR can be Energised ________________ (D)
   A) When all the signals are at ON
   B) Concern signals are at ON
   C) Concern siding lever is at reverse
   D) Both B & C

7. Calling on signal is used to ____________________ (D)
   A) Receive the train on occupied line
   B) Receive the train when overlap point is failed
   C) Signal in advance is blank
   D) All the above

8. NPR Relay picks up ensures_______________ (D)

   A) Siding point at outdoor set to Normal

   B) Siding point KEY is IN

   C) siding point knob in Normal

   D) All the above

9. Identify False statement (B)

   A) for clearing CO-ON signal all the points in the route including isolation are required

   B) for clearing CO-ON signal track circuit conditions are not required

   C) for clearing CO-ON signal, signal in advance should not take off

   D) for clearing CO-ON signal LC gate in the route required

10. Identify False statement (D)

    A) for clearing CO-ON signal LC gate in the route required

    B) for clearing CO-ON signal, signal in advance should not take off

    C) for clearing CO-ON signal all the points in the route including isolation are required

    D) CO-ON signal can be clear before Train arriving to signal

11. For Calling on HR __________________contacts used for cross protection (B)

    A) UCR Front

    B) UCR Back

    C) ASR Back

    D) TSR Front

12. for clearing calling on signal _________________track circuits are required (B)

    A) Back lock

    B) CO-ON

    C) Overlap

    D) Berthing

Chapter-5 : Indication Circuits

1. Track red Indication appears ___________ (D)

   A) When track is free

   B) When track is occupied

   C) When track is failed

   D) B & C

2. ________________type of Track indications are provided on illumination diagram above the lever frame in cabins (A)

   A) spot light

   B) strip

   C) luminous

   D) B & C

3. ________________type of Track indications are provided on PI & RRI type panel (B)

   A) spot light

   B) strip

   C) luminous

   D) B & C

4. ________________type of point indications are provided in the cabins above the respective Lever (C)

   A) spot light

   B) strip

   C) luminous

   D) B & C

5. On panel white Track circuit indications appears when __________________ (A)

   A) concern Track is pickup and signal route is initiated

   B) concern track is occupied

   C) when track is pickup

   D) concern Track is pickup and signal route is not initiated

Chapter-1 : Signal Control Circuits

43. In vital circuit design _____________ Principle used for designing of circuits (B)
    A) Open circuit
    B) Closed circuit
    C) Both open & closed
    D) Neither closed Nor open circuit

44. In Non-vital circuit design __________ Principle used for designing of circuits (C)
    A) Open circuit
    B) Closed circuit
    C) Both open & closed
    D) Neither closed Nor open circuit

45. Signal Control Circuits are designed in accordance with the_________ (D)
    A) Essentials of interlocking
    B) Signal Engineering Manual
    C) General Rules
    D) All the above

46. For clearing the Home signal ____________ required (D)
    A) Points in the route
    B) Isolation points
    C) Overlap points
    D) All the above

47. For clearing the Starter signal ____________ required (B)
    A) Points in the route & overlap
    B) Points in the route & isolation points
    C) Points in the route, isolation points & overlap points
    D) Points in the route only

48. For clearing the Shunt signal ____________ required (D)
    A) Points in the route & overlap
    B) Points in the route & isolation points
    C) Points in the route, isolation points & overlap points
    D) Points in the route only, Isolation points not compulsory

49. For clearing Home signal __________________ Track circuits are required (A)
    A) Track circuits in the route up to next signal and Overlap tracks.
    B) Tracks up to next signal in advance in the route
    C) Tracks up to next signal in advance in the route excluding berthing track
    D) One track circuit in advance of the signal

50. For clearing starter signal __________________ Track circuits are required (B)

A) Track circuits in the route up to next signal and Overlap tracks.

B) Tracks up to next signal in advance in the route

C) Tracks up to next signal in advance in the route excluding berthing track

D) One track circuit in advance of the signal

51. For clearing shunt signal __________________ Track circuits are required (C)

A) Track circuits in the route up to next signal and Overlap tracks.

B) Tracks up to next signal in advance in the route

C) Tracks up to next signal in advance in the route excluding berthing track

D) One track circuit in advance of the signal

52. In case of stations/yards where no track circuit or axle counter is provided on berthing tracks ____________ (A)

A) A line verification box can be used to verify the clearance of the tracks

B) station master manually ensures the berthing track and receives train on signal

C) Berthing tracks not proved in signal control circuit

D) Train can receive on Non-signal Movement only

53. For Major Yards Home and CO-ON signals having _________________ (B)

A) Common slot

B) Separate slots

C) slot for Home signal only

D) Slot for CO-ON signal only

54. The relays used to prove the sequential occupation & clearance of track circuits & release of the route after passage of train _________ (A)

A) UYR

B) UCR

C) UHR

D) UGR

55. Route Indicator lamp checking relay UECR picks up when minimum __________ No of Lamps/ LEDs lit. (B)

A) 2

B) 3

C) 4

D)5

56. In signal control circuit __________________ band Contact of signal lever Concerned is proved on both +ve side and on -ve side of the relay (A)

A) R

B) N

C) Both N & R

D) Neither N nor R

57. In signal control circuit_________________ band contact of signal lever concern bridged or bye passed with signal control relay coil. (B)

A) R

B) N

C) Both N & R

D) Neither N nor R

58. In signal control circuit mandatory to prove _________________ (B)

A) Both Signal in advance & rare should not blank.

B) Signal in advance should not blank

C) Signal in rare should not blank

D) Neither advance nor rare signal condition proved

59. After clearing the signal if train passed the signal, OFF aspect automatically goes to ON aspect and signal will not reclear even signal lever in reverse position. This is achieved by _____ Relay (C)

A) TRSR

B) TLSR

C) TSR

D) TPZR

60. After taking OFF signal if train cleared the route, signals assumes to ON aspect and signal will not reclear even signal lever in reverse position. This is achieved by __________ Relay (C)

A) TRSR

B) TLSR

C) TSR

D) TPZR

61. TSR is also called as____________ (D)

A) SR

B) LSR

C) ASR

D) Both A & B

62. The TSR is controlled by__________________________ (D)

A) first track circuit immediately in advance of the signal

B) first two track circuits immediately in advance of the signal

C) first track circuit immediately in advance of the signal and the Reverse position of the signal lever

D) First track circuit immediately in advance of the signal and the Normal position of the signal lever

63. TSR will ensure___________ (C)

A) One Route one signal movement

B) One signal one route movement

C) One signal one movement

D) One signal multi route movement

64. After picking TSR, TSR sticks Though ____________________ (A)

A) TSR front contact

B) TSR back contact

C) TSR front & Knob Normal

D) TSR front & Knob Reverse

65. In TSR circuit knob contact bye-passed or bridged with __________contacts S (A)

A) TSR front

B) TSR back

C) Both TSR front & back

D) Neither front Nor back

66. TSR ___________ (D)

A) Cannot be combined

B) can be Common to more than one signal if they are conflicting in nature

C) can be Common to more than one signal if they have common controlling track circuit

D) Both B & C

67. On Single line, Home and opposite Advance Starter signals (B)

A) TSRs cannot be combined

B) TSR Can be common

C) Advance starter donôt have TSR

D) Home signal donôt have TSR

68. Starter signal and shunt below it (B)

A) TSRs cannot be combined

B) Can be common

C) Advance starter donôt have TSR

D) Home signal donôt have TSR

69. Identify false statement (C)

A) When a signal is controlled by more than one agency it cannot be taken OFF unless consent from other agencies is obtained

B) slot will be transmitted from one cabin to other cabin, only when points correctly set

C) With one slot we can receive multiple trains

D) Home signal and CO-ON having separate slots

70. Identify false statement (C)

A) When shunt signal is provided on a separate post it displays ON and OFF aspects

B) When shunt signal provided below a stop signal it displays OFF aspect only

C) When shunt signal provided below a stop signal it displays ON and OFF aspects

D) For clearing shunt signal Points in the route only, Isolation points not compulsory

71. Maximum number of routes which can be indicated by using Stencil type route indicator is _________ (C)

A) 2 B) 3 C) 4 D) 5

72. Visibility of __________________________ indicator is very poor. (A)

A) Stencil type route indicator

B) Multi lamp type route indicator

C) Junction Type Route Indicator

D) Both multi & Junction Type Route Indicator

73. Multi lamp route indicator ________________ (C)

A) first type consisting of 35 lamps

B) Second type consisting of 49 lamps

C) Both A&B

D) consisting 64 lamps

74. Multi lamp route indicator with 35 lamps ________________ (B)

A) can exhibit any letters and numerals up to 19

B) can exhibit any letters and numerals up to 9

C) can exhibit any letters and numerals up to 49

D) can exhibit 4 letters and numerals up to 9

75. Multi lamp route indicator with 49 lamps ________________ (A)

A) can exhibit any letters and numerals up to 19

B) can exhibit any letters and numerals up to 9

C) can exhibit any letters and numerals up to 49

D) can exhibit 4 letters and numerals up to 9

76. ____called as position light type route indicators or direction type route indicator (C)

A) stencil type route indicator

B) Multi lamp type route indicator

C) junction Type Route Indicator

D) Both multi & Stencil Type Route Indicator

77. When train receiving to main line route indicator will not displayed in (C)

A) stencil type route indicator

B) Multi lamp type route indicator

C) junction Type Route Indicator

D) Both multi & Stencil Type Route Indicator

78. King lever is used to__________________ (C)

A) Convert Manual signal to Auto signal

B) Convert Auto signal to Manual signal

C) Both A &B

D) Auto operation of points in case track circuit failed

79. In Semi automatic Signalling In TSR circuit Signal lever Normal Band contacts bridged with ____________ contact to reclear signal automatically (B)

A) King Lever Normal band

B) King Lever Reverse band

C) Both King lever Normal & Reverse band

D) king Levers Neither Normal Nor Reverse bands

80. Identify False statement (B)

A) When Auto signalling in operation ‘A’ marker light lits

B) when manual signalling in operation ‘A’ marker light lits

C) King Lever Reverse contact is made use of in lighting up the “A” marker lamps

D) when manual signalling in operation ‘A’ marker light not lits

81. Identify False statement (B)

A) For energising relay single cutting is used, Single fault can cause the relay to pick up

B) For energising relay double cutting is used, Single fault can cause the relay to pick up

C) For energising relay double cutting is used, double fault can cause the relay to pick up

D) Cross protection is used to prevent the energisation of relay in case double side fault.

82. Junction type Route Indicator lits _____ (B)

A) for all the lines

B) only for Loop lines

C) only for Main line

D) only for starter signals

83. Signal with Multi Lamp type Route indicator___________ (A)

A) Lits prior to main aspect is not necessary

B) Lits prior to main aspect is necessary

C) Lits after litting a marker

D) Lits prior to litting a marker

42. In TSR circuit TSR stick contact is bye passed with _______________ contact (C)

A) TPR pickup B) TPR pick up & knob

C) Knob D) TPR Drop contact

43. IN HR circuit TSR ________________contact used

A) Front B) Back

C) Both front & back D) Neither Front nor back

Chapter-2 : Electrical Lockings on Points and Signal Levers

23. In Electro- Mechanical signalling Lock bar function replaced by ________ (B)
    A) Indication locking
    B) Track locking
    C) fouling bar
    D) Signal lever

24. Signal Indication locking is Effective in ___________ (B)
    A) Mechanical Interlocking
    B) Electro-Mechanical Interlocking
    C) Both in Mechanical & Electro-Mechanical Interlocking
    D) Neither Mechanical Nor Electro-Mechanical interlocking

25. Point Indication Locking is effective in ________ (B)
    A) Mechanical Interlocking
    B) Electro-Mechanical Interlocking
    C) Both in Mechanical & Electro-Mechanical Interlocking
    D) Neither Mechanical Nor Electro-Mechanical interlocking

26. Points Track Locking is effective in ________ (B)
    A) Mechanical Interlocking
    B) Electro-Mechanical Interlocking
    C) Both in Mechanical & Electro-Mechanical Interlocking
    D) Neither Mechanical Nor Electro-Mechanical interlocking

27. Electrical locking of levers is effective in _________ (B)
    A) Mechanical Interlocking
    B) Electro-Mechanical Interlocking
    C) Both in Mechanical & Electro-Mechanical Interlocking
    D) Neither Mechanical Nor Electro-Mechanical interlocking

28. Track locking is defined in ______________ (A)
    A) B.S.I.Spec.No.719-l936
    B) B.S.I.Spec.T19-1936
    C) B.S.I.Spec.No.719-l936
    D) B.S.I.Spec.No.619-l936

29. In Mechanical interlocking, track locking is effective on __________ (D)
    A) Point Lever controlling point machine
    B) Lock lever
    C) Fouling bar lever
    D) All the above

30. In Relay interlocking track locking is achieved at _____________ (D)

A) Point initiation

B) point control

C) point operation level

D) All the above

31. Point zone track circuit occupied by train point cannot be operated this locking is called __________ (D)

A) Indication locking

B) Back locking

C) Approach locking

D) Track locking

32. In Electro- Mechanical Interlocking _________________ (D)

A) Lock bars are proved for locking points

B) Lock bars are not provided

C) Track circuits are provided for locking point

D) B&C

33. In Electro- Mechanical interlocking Track locking provided ___________ (C)

A) for point Reverse to Normal operation

B) for point Normal to Reverse operation

C) A&B

D) Not provided

34. In Electro- Mechanical Interlocking, when point operating from reverse to Normal Track locking is Effective at __________ position of lever (C)

A) B

B) D

C) E

D) C

35. Identify the False statement (A)

A) When Track centres are more than 15ô6ò(New work 17ô38ò) - fouling protection by track locking is necessary

B) When Track centres are less than 15ô6ò(New work 17ô38ò) - fouling protection by track locking is necessary

C) In case of cross over points, where two/three controlling track circuits are provided, all the track circuits are to be proved in track locking

D) Track locking is provided on point lever such that the lever cannot be operated either from N to R or from R to N when the point zone track circuit is occupied by train

36. In Electro- Mechanical Interlocking track locking provided on _________ (B)

A) Point Lever only

B) point lever or Lock lever

C) signal lever only

D) Signal lever or Lock lever

37. Indication locking is defined in ________________ (B)

A) B.S.I.Spec.No.719-l936

B) B.S.I.Spec.T19-1936

C) B.S.I.Spec.No.719-l936

D) B.S.I.Spec.No.619-l936

38. An arrangement to prevent the full stroke of a lever in an interlocking frame until such time as the apparatus controlled by that lever has completed its movement. This locking is called _________________ (A)

A) Indication locking

B) Back locking

C) Approach locking

D) Track locking

39. Identify the false statement ___________________ (B)

A) Indication locking will be provided where there is no rigid connection between the lever and its function

B) Indication locking will be provided where there is rigid connection between the lever and its function

C) Indication locking purpose prevent out of correspondence between function position at site and control of that function

D) Indication locking is defined in B.S.I.Spec.T19-1936

40. In Relay Interlocking indication locking checked at _______________circuit (C)

A) UYR

B) UCR

C) ASR

D) HR

41. In Electro- Mechanical interlocking Indication Locking is provided on __________ (C)

A) Signal Lever

B) Point Lever

C) Both Signal & Point Lever

D) Neither Signal Nor Point Lever

42. The indication locking for point is effective at __ position for reverse to normal operation (A)

A) B

B) C

C) D

D) E

43. When combined Track and indication locking circuits are used separate _________ and _______ spot contact should be used instead of one ______ contact; otherwise, the indication locking may not function. (C)

A) A and B, AB

B) B and D, BD

C) A and E, AE

D) B and C, BC

44. In Electro- Mechanical interlocking indication locking for signal is effective at ______ position (A)

A) B

B) C

C) D

E) E

24 .In indication locking circuit of motor operated Semaphore Signal, ON aspect of signal is proved by ________ degree of arm contact. (A)

A) 0 to 5

B) 5 to 10

C) 80 to 90

D) 80 to 85

25. In eletrical interlocking, in the indication locking of first stop signal ____________ contacts used (B)

A) First stop signal ON aspect pick up or OFF aspect drop contacts only

B) Both First stop signal & distant signal ON aspect pick up or OFF aspect drop

C) distant signal ON aspect pick up or OFF aspect drop contacts only

D) Both First stop signal & ahead signal ON aspect pick up or OFF aspect drop contacts

26.______________ locking is provided on the signal lever to prevent the lever from going to normal position in the face of an approaching train (C)

A) Indication locking

B) Back locking

C) Approach locking

D) Track locking

27. In Electro- mechanical interlocking on Signal lever ________ lockings are provided (A)

A) Indication & Approach lockings

B) Approach & track lockings

C) Indication & track lockings

D) Indication, Approach & track lockings

28. Approach locking is effective _____________ position of signal lever (B)

A) A

B) B

C) C

D) E

29. Approach track circuits are proved in ____________________ circuit to ensure lever cannot be put back to normal when the approach track is occupied (A)

A) Back lock (B) L circuit

B) Indication Locking (ABDE) L

C) Indication Locking (BD) L

D) Indication Locking (AE) L

30. In Back locking Circuit, approach Track circuits & TSR contact Bridged with___________ Contacts (D)

A) Sequential proving relays (UYR) pick up & TSR Drop contacts

B) Emergency cancellation relay (JR) pickup

C) Sequential proving relays (UYR) pick up & TSR pickup contacts

D) Both A & B

31. For ensuring time delay in Electro-Mechanical interlocking __________ relays used (D)

A) AC vane driven clock type

B) Thermal type

C) Electronic type

D) All the above

32. In Electro mechanical when electronic timers are used for time delay, they are worked in _________ and their outputs are proved in __________ to prevent premature release in the event of failure of any one of the timers. (B)

A) parallel, parallel

B) Parallel, series

C) Both series

D) Series, series

33. After the train passes the signal, it shall not be possible for cabin man/SM to alter the route unless the train clears the entire route. This locking is called as (B)

A) Approach locking

B) Back locking or route locking

C) Track locking

D) Indication locking

34. In Electro- mechanical interlocking at signal lever B position _______________ lockings are provided (D)

A) Approach

B) Back

C) Indication

D) All the above

35. For designing sequential proving circuit, Minimum _____________ No of track circuits in succession is considered to avoid premature route release. (B)

A) ONE

B) Two

C) Three

D) Four

36. Identify false statement (B)

A) Once the route is released, all the UYRôs energized during train movement drops

B) Once the route is released, all the UYRs picks up

C) All UYRs back contacts proved in signal clearance circuit

D) UYRs once picked up, Kept in energised condition by stick path till the Route is released

37. Sectional route release adopted in_____________ (A)

A) Bigger yards

B) Small yards

C) All Yards

D) IN PI

38. In Sectional Route release first sub route will be controlled by ________________ (A)

A) Back lock (B) L circuit

B) ULSR

C) TSR

D) UYR

39. In Sectional Route release , after releasing first next sub routes will be controlled by _____________ (B)

A) Back lock (B) L circuit

B) ULSR

C) TSR

D) UYR

40. Sequential Proving Relays_____________________ (B)

A) Normally pick up, drops when train arrived sequentially

B) Normally drop, Picks up when train arrived sequentially

C) Normally pick up, drops when train arrived sequentially

D) Normally drop, Picks up after route releasing

41. For clearing signal ahead signal should not blank. This applies to ________ (D)

A) Home signal only

B) Calling on signal only

C) Starter signal

D) All the signal except calling on

42. In Electro- mechanical once sequential proving relays (UYRs) picked up stick through its own contact till _______________ (B)

A) Signal lever is reversed

B) Signal lever is normal

C) Point lever is normalised

D) Both Point and signal lever is normalised.

84. In Electro- Mechanical for cancellation of signal ,signal lever should be kept _____ position for Energisation of JR relay

A) N

B) R

C) B

D) A

Chapter-3 : Selection/Control Table

1. Identify the False statement (D)

   A) Approach track circuit length for Home signal is Normal Breaking Distance + Reaction Distance

   B) Approach track circuit length for Loop line Starters is Berthing Tracks

   C) Approach track circuit length for Shunt signal is the tracks from which train is expected to start

   D) Approach track circuit length for Main line Starters is Berthing Tracks only

2. Identify the False statement (B)

   A) For Red lamp protection ahead signal Aspect conditions proved in signal control circuit

   B) The Calling on Track circuit of home signal can be used as Approach track circuit

   C) The Loop line starter signal berthing track used as Approach track circuit

   D) For shunt signal Control and back lock track circuits are same.

3. Cancellation time for Advance starter is _______________ (A)

   A) 0 sec

   B) 60 sec

   C) 120 sec

   D) 180 sec

4. Identify False statement _______________ (A)

   A) CO-ON Provided with Approach Locking

   B) CO-ON Provided with Dead Approach Locking

   C) CO-ON signal cancellation time is 240 sec

   D) In CO-ON signal overlap points are not proved

5. Identify TRUE statement _______________ (A)

   A) For shunt signal Control and back lock track circuits are same

   B) For starter signal Control and back lock track circuits are same

   C) For CO-ON signal Control and back lock track circuits are same

   D) In CO-ON signal overlap points are proved

Chapter-4 : Crank handle, Siding control circuits and Calling ON Signal

1. Crank handle IN circuit (CHLR) ______ contacts of economiser push buttons used. (A)
   A) NC
   B) NO
   C) Both NO & NC
   D) Neither NO Nor NC

2. Crank handle EKT coil circuit ______ contacts of economiser push buttons used. (B)
   A) NC
   B) NO
   C) Both NO & NC
   D) Neither NO Nor NC

3. Crank handle EKT coil circuit ______ contacts of economiser push buttons used. (B)
   A) CHLR front
   B) CHLR back
   C) Both CHLR front & back
   D) UCR front & ASR back

4. Crank handle provided for_____________ (A)
   A) Operation of Electrically operated points
   B) operation of Mechanically operated point
   C) for operation of Both Electrical & Mechanical points
   D) for operation of mechanically operated siding points

5. Identify TRUE statement (C)
   A) Each and Every point have one crank handle
   B) Only one common crank handle provided for all the points
   C) Crank handles are grouped to achieve optimum flexibility
   D) crank handle can be extracted from EKT after clearing the signal

6. Siding YR can be Energised ________________ (D)
   A) When all the signals are at ON
   B) Concern signals are at ON
   C) Concern siding lever is at reverse
   D) Both B & C

7. Calling on signal is used to ____________________ (D)
   A) Receive the train on occupied line
   B) Receive the train when overlap point is failed
   C) Signal in advance is blank
   D) All the above

8. NPR Relay picks up ensures_______________ (D)

   A) Siding point at outdoor set to Normal

   B) Siding point KEY is IN

   C) siding point knob in Normal

   D) All the above

9. Identify False statement (B)

   A) for clearing CO-ON signal all the points in the route including isolation are required

   B) for clearing CO-ON signal track circuit conditions are not required

   C) for clearing CO-ON signal, signal in advance should not take off

   D) for clearing CO-ON signal LC gate in the route required

10. Identify False statement (D)

    A) for clearing CO-ON signal LC gate in the route required

    B) for clearing CO-ON signal, signal in advance should not take off

    C) for clearing CO-ON signal all the points in the route including isolation are required

    D) CO-ON signal can be clear before Train arriving to signal

11. For Calling on HR __________________contacts used for cross protection (B)

    A) UCR Front

    B) UCR Back

    C) ASR Back

    D) TSR Front

12. for clearing calling on signal _________________track circuits are required (B)

    A) Back lock

    B) CO-ON

    C) Overlap

    D) Berthing

Chapter-5 : Indication Circuits

1. Track red Indication appears ___________ (D)

   A) When track is free

   B) When track is occupied

   C) When track is failed

   D) B & C

2. ________________type of Track indications are provided on illumination diagram above the lever frame in cabins (A)

   A) spot light

   B) strip

   C) luminous

   D) B & C

3. ________________type of Track indications are provided on PI & RRI type panel (B)

   A) spot light

   B) strip

   C) luminous

   D) B & C

4. ________________type of point indications are provided in the cabins above the respective Lever (C)

   A) spot light

   B) strip

   C) luminous

   D) B & C

5. On panel white Track circuit indications appears when __________________ (A)

   A) concern Track is pickup and signal route is initiated

   B) concern track is occupied

   C) when track is pickup

   D) concern Track is pickup and signal route is not initiated

CHAPTER-1 : Introduction to Relay Interlocking

1. Conflicting signal-to-signal locking is proved in at least ____________ stages

A) One B) Two C) Three D) Four

(ANS: B)

2. In Electrical or relay interlocking, the interlocking is checked at _______ stages

A) UCR B) ASR C) HR D) A & C

(ANS: D)

3. Types of relay interlocking are_________________________________

A) PI & Non-Route setting B) RRI & Route setting

C) Route setting & Non-Route D) Entry & Exist

(ANS: C)

4. Route setting Type Interlocking is also called as____________________

A) RRI B) Entry & Exist C) Both A &B D)PI

(ANS: C)

5. Non-Route setting Type provided in __________________Stations

A) Small and Way side Single line B) Small and Way side double line

C) Both A & B D) Major

(ANS: C)

6. Route setting Type provided in __________________Stations

A) Small and Way side Single line B) Small and Way side double line

C) Both A & B D) Major

(ANS: D)

7. In Mechanical Interlocking, Interlocking checked at__________________

A) Locking Tray of Lever Frame B) Near Functions With mechanical detectors

C) Both A & B D) By Means of Electrical controls on the funct

(ANS:C)

8. In Electro-Mechanical Interlocking, Interlocking checked at__________________

A) Locking Tray of Lever Frame

B) Near Functions With mechanical detectors

C) By Means of Electrical controls on the function

D) Both A & C

(ANS: D)

9. In the Panel Interlocking to TAKE OFF a signal ______Points has to operate manually

A) Points in the Route B) Points in the overlap

C) Isolation points D) All the above

(ANS:D)

10. In the Route setting type Interlocking to TAKE OFF a signal ______Points has to operate manually

A) Points in the Rote
B) Points in the overlap
C) Isolation points
D) Manual operation not required

(ANS: D)

11. Advantages of Electrical Interlocking is

A) Easy Installation and Maintenance
B) Quick and Efficient Operation
C) No Overhauling Procedures
D) All the above

(ANS: D)

12. Route Buttons are______________

A) Compulsory in PI
B) optional in RRI
C) Compulsory in RRI
D) Both A & B

(ANS:C)

13. In Non- Route setting Type interlocking, points _____________

A) Points has to operate manually before clearing signal
B) Points automatically operates to required position when signal is initiated
C) Both A & B
D) Operate points in the route only

(ANS: A)

14. In Route setting Type interlocking points _____________

A) Has to operate manually before clearing signal
B) Points automatically operates to required position when signal is initiated
C) Both A & B
D) Operate points in the route only

(ANS: B)

15. Colour Light signalling is__________________

A) Compulsory in PI   B) Compulsory in RRI   C) Optional in PI   D) B&C

(ANS: D)

16. Sectional Route Release is______________

A) Compulsory in PI   B) Compulsory in RRI   C) Optional in PI   D) B&C

(ANS: D)

17. Point Knobs used in RRI have___________ positions

A) TWO   B) Three   C) Both A & B   D) Four

(ANS: B)

18. Point Knobs used in PI have___________ positions

A) TWO   B) Three   C) Both A&B   D) Four

(ANA: A)

19. Point knob used in RRI having __________positions

A) ôNô   B) ôRô   C) ôCô   D) All the above

(ANS: D)

20. In Domino Type Panel, Dominos size used is

A) 63X38 mm B) 54X34 mm C) 63X34 mm D) Both A&B

(ANS: D)

21. When Track circuit is clear, route is not set & not locked Track indication on panel is__________

A) White B) RED C) No Indication D) Green

(ANS: C)

22. When Track circuit is clear, route is set & locked Track indication on panel is_______

A) White B) RED C) No Indication D) Green

(ANS: A)

23. When Track is occupied or failed, Track indication on panel is_____________

A) White B) RED C) Yellow D) Green

(ANS: B)

24. In PI when point is set to Normal & Locked point Indication near the knob is __________

A) Yellow B) Green C) Red D) white

(ANS: A)

25. In PI when point is set to Reverse & Locked point Indication near the knob is __________

A) Yellow B) Green C) Red D) white

(ANS: B)

26. When Siding point is in Normal & locked Indication on panel is _________

A) Yellow B) Green C) Red D) No Light

(ANS: A)

27. When Siding point is taken out Indication on panel is ________________

A) Yellow B) Green C) Red D) No Light

(ANS: D)

28. When signal is not takenôOFFô, Signal Route indicator on panel is__________

A) White B) No Indication C) Red D) Green

(ANS: B)

29. When signal is takenôOFFôto Loop line , Signal Route indicator on panel is________

A) White B) No Indication C) Red D) Green

(ANS: A)

30. Shunt signal below a stop signal when not taken óOFFôshunt signal indication on panel is______

A)No Indication B)two white lights diagonal

C)two white lights horizontal D) Yellow

(ANS:A)

31. Shunt signal below a stop signal when taken óOFFôshunt signal indication on panel is___________

A) No Indication B) two white lights diagonal

C) two white lights horizontal D) Yellow

(ANS:B)

32. Shunt signal on a separate post when not taken óOFFôshunt signal indication on panel is___________

A) No Indication B) two white lights diagonal

C) two white lights horizontal D) Yellow

(ANS:C)

33. Shunt signal on a separate post when taken óOFFôshunt signal indication on panel is___________

A) No Indication B) two white lights diagonal

C) two white lights horizontal D) Yellow

(ANS:C)

34.CO-ON signal óONôindication on panel is_______________

A) No indication B) miniature Yellow

C) two white lights horizontal D) two white lights diagonal

(ANS:A)

35. CO-ON signal óOFFôindication on panel is_______________

A) No indication B) miniature Yellow

C) two white lights horizontal D)two white lights diagonal

(ANS:B)

36. Main signal Button colour is______________

A) Red B) Red with white dot C) Blue D) Grey

(ANS:A)

37. Calling on signal initiation Button colour is ______________

A) Red B) Red with white dot C) Blue D) Grey

(ANS:A)

38. CO-ON signal Button colour is______________

A) Red B) Red with white dot C) Blue D) Grey

(ANS:B)

39. Shunt signal Button colour is ______________

A) Red B) Yellow C) Blue D) Grey

(ANS:B)

40. Route Button colour is ______________

A) Red B) Yellow C) Blue D) Grey

(ANS:D)

41. Emergency Full Route Cancellation Button colour is ______________

A) Red B) Yellow C) Blue D) Grey

(ANS:D)

42. Crank Handle Button colour is ______________

A) Red B) Yellow C) Blue D) grey

(ANS:C)

43. Crank Handle is IN & locked, Indication on panel is_______________

A) Red B) Yellow C) Green D) grey

(ANS:C)

44. Crank Handle is OUT, Indication on panel is_______________

A) Red B) Yellow C) Green D) No Indication

(ANS:A)

45. Crank Handle is Free, Indication on panel is_______________

A) Red B) Yellow C) white D) No indication

(ANS:C)

CHAPTER-2 : Sequence of Operations on Panel

1. LC Gate Knobs used in PI having___________ positions

A) single B)two C)Three D)Four

(ANS:B)

2. 3 position point knobs used in_____________

A) PI B)RRI C)PI & RRI D) Not used in PI&RRI

(ANS:B)

3. Signal Knobs used in PI having___________ positions

A) single B) two C) Three D) Four

(ANS:B)

4. Signal Knobs used in RRI having___________ positions

A) single B) two C) Three D) Four

(ANS:B)

5. Before operating point in _______________ Conditions has to be ensure

A) SMKEY IN

B) Point is not locked under any Route

C) Points Crank Handle is in and Point Track is clear

D) All the above (ANS:D)

6. In PI Signal knob will be Reversed ________________

A) After operating the points to required position

B) Before operating the points to required position

C) Before or After operating the points to required position

D) After operating the points to required position & ensuring conflicting signals not taken

(ANS:D)

7. In PI UCR relay Picks up when ______________

A) signal RR is picked UP and all the points in the route is set

B) signal RR is picked UP and ASR in drop condition

C) Signal RR in Drop and OVSR in drop condition

D) Signal RR in Drop and ASR in Drop condition (ANS:A)

8. UCR is the _______________________

A) Route Locking Relay B) Route Checking Relay

C) Route checking & Route locking Relay D) Route Free Relay

(ANS:A)

9. After Picking of UCR___________________

A) ASR picks up

B) OVSR picks up

C) ASR drops and dropping of ASR causes OVSR to drop.

D) RR Picks (ANS:C)

10. When ASR drops____________________

A) locks all the points in Route

B) all the points in the Route will be free

C) locks all the overlap points only

D) all the overlap points will be free (ANS:A)

11. When OVSR drops____________________

A) locks all the points in Route

B) all the points in the Route will be free

C) locks all the overlap points only

D) all the overlap points will be free (ANS:C)

12. HR picks up after____________

A) picking RR ,UCR and dropping ASR

B) picking RR, UCR and ASR

C) picking RR and dropping UCR &ASR

D) picking RR& ASR and dropping UCR (ANS:A)

13. Setting of Route, locking of route and clearance of the signal are done simultaneously at the same time in__________

A) PI

B) RRI

C) Both PI &RRI

D) Mechanical & Electro-Mechanical interlocking also (ANS:B)

14. In RRI for clearing the signal____________ used

A) signal button alone

B) Route button alone

C) Both signal &Route buttons

D) Both signal &point buttons (ANS:C)

15. Manual/Individual point operation is available in________

A) PI B) RRI C) PI&RRI D) Neither PI Nor RRI

(ANS:C)

16. In RRI Point knob kept in _______position for auto operation

A) Normal B) center C) Reverse D) Normal or Reverse

(ANS:B)

17. In RRI if Point knob kept in ‘Center’ position

A) NC & RC Make, N&R Break

B) N& NC Make, R&RC &C Break

C) R& RC Make, N&NC&C Break

D) N& R Make, NC&RC&C Break (ANS:A)

18. In RRI if Point knob kept in ‘Normal’ position

A) NC & RC Make, N&R Break

B) N& NC Make, R&RC &C Break

C) R& RC Make, N&NC&C Break

D) N& R Make, NC&RC&C Break (ANS:B)

19.In RRI if Point knob kept in ‘Reverse’ position

A) NC & RC Make, N&R Break

B) N& NC Make, R&RC &C Break

C) R& RC Make, N&NC&C Break

D) N& R Make, NC&RC&C Break (ANS:C)

20. When ASR picks up

A) Route will be released

B) overlap will be released after 120 sec

C) Sequential Route release relays drops

D) All the Above (ANS:D)

21. Crank Handles are ____________

A) Used for manual operation of points when Electrical operation failed

B) Interlocked with signals

C) When signal is taken OFF Extraction of Crank handle not possible

D) All the above (ANS:D)

22. In case of Approach Track circuit, if Approach Track circuits are clear and Signal cancellation applied Route will be Released __________________

A) Immediately

B) After time delay 120 secs

C) After time delay 240 secs

D) Never (ANS:A)

23. In case of Approach Track circuit, if Approach Track circuits are occupied and Signal cancellation applied Route will be Released __________________

A) Immediately

B) After time delay

C) Never

D) With or Without time delay (ANS:B)

24. In case of Dead Approach after applying Signal cancellation applied Route will be Released __________________

A) Immediately

B) After time delay

C) Never

D) With or Without time delay (ANS:B)

25. The Length of Approach Track circuit ________________

A) Depends upon the Sectional permissible speed

B) Type of the signal

C) Same for all the signals

D) A & B

(ANS:D)

CHAPTER-3 : Signalling Plan-Control Table

1. To ensure signal ahead is not blank in the HR circuit of home signal _____________ proved

A) Ahead signal RECR
B) Ahead signal HECR
C) Ahead signal DECR
D) All the aspects of Ahead signal

(ANS:D)

2. In the CO-ON Signal control circuit _________________________

A) points in the route including isolation must be proved
B) All the isolation points including overlap must be proved
C) route and overlap points including isolation are required
D) Overlap portion must be proved (ANS:A)

3. Home Signal Controlled by __________ track circuits.

A) Route
B) Berthing
C) Overlap
D) All the above

(ANS:D)

4. Calling on signal controlled by ______________track circuits.

A) Route
B) Berthing
C) CO-ON
D) Overlap

(ANS:C)

5. In the Home Signal Control circuit ______________ points are proved

A) Route
B) isolation
C) Overlap
D) All the above

(ANS:D)

6. In the CO-ON Signal Control circuit ______________ points are proved

A) Route
B) isolation
C) Overlap
D) A&B

(ANS:D)

7. Shunt signal controlled by ______________ track circuits.

A) All the track circuits from Shunt signal to berthing track including berthing track
B) All the track circuits from Shunt signal to berthing track excluding berthing track
C) All the track circuits from Shunt signal to overlap.
D) Track circuits need not proved (ANS:B)

8. Approach locking for loop line starter is _______________

A) Loop Line berthing track alone
B) Loop Line berthing track & Home signal condition
C) Loop Line berthing track & ahead signal condition
D) Dead Approach (ANS:A)

9. Approach locking for Main line starter is _______________

A) Loop Line berthing track alone
B) Loop Line berthing track & Home signal condition
C) Loop Line berthing track & ahead signal condition
D) Dead Approach (ANS:B)

10. Approach locking for Shunt Signal is _______________

A) Shunt signal berthing track alone

B) shunt Signal berthing track & Rear signal condition

C) Loop Line berthing track & ahead signal condition

D) Dead Approach (ANS:A)

11. Approach locking for CO-ON signal is _______________

A) CO-ON Track

B) Track circuit in Approach of signal irrespective of length

C) Track circuit in Approach of signal with length of Normal breaking distance

D) Dead Approach (ANS:D)

12. The CO signal locks___________________

A) Home signal on the same post

B) Ahead starter signal

C) A&B

D) other side CO-ON signal to the same & different routes (ANS:C)

13. In panel interlocking, the CO signal cancellation time is ________

A) 60 sec

B) 120 sec

C) 180 sec

D) 240 sec (ANS:D)

14. Level crossing gate Cancellation time is _______________

A) 60 sec

B) 120 sec

C) 180 sec

D) 240 sec (ANS:B)

15. Home signal DG aspect controlled by___________________

A) Mainline starter signal DG

B) Mainline & Loop line starter signal DG

C) Distant signal DG

D) B&C (ANS:A)

16. For clearing calling on signal___________

A) route indicator has to lit for main line and loop line

B) route indicator has to lit for main line and not required for loop line

C) route indicator not required

D) route indicator has to lit for loop line and not required for main line (ANS:B)

17. For preparation of Signalling circuits input are_____________

A) Approved signalling plan

B) TOC/RCC/ST

C) Panel Diagram

D) All the above (ANS:D)

CHAPTER-4 : Nomenclature of Relays & Circuits

1. SMR is________________

A) Normally Pickup

B) It picks up when SM key inserted in panel

C) It drops when SM key is taken out from panel

D) All the Above (ANS:D)

2. When SM Key is OUT _____________

A) Points can be operated from panel

B) Signal can be cleared

C) Signal can be put back to ON position

D) Signal can be put back to ON position and Route can be released (ANS:C)

3. Identify the false statement__________________

A) SMR contact proved in WNR circuit

B) SMR contact proved in GNR circuit

C) SMR contact proved in UNR circuit

D) SMR contact proved in LXNR circuit (ANS:B)

4. One signal one train movement Ensured by_____________

A) UYR

B) ASR

C) UYR

D) TSR (ANS:C)

5.___________ circuit Ensures signal is not re-cleared.

A) signal first controlling Track circuit

B) TRSR

C) TLSR

D) TSR (ANS:D)

6. Pickup contact of TSR Proved in ___________circuit

A) UCR

B) ASR

C) HR

D) WLR (ANS:D)

7. Signal TSR circuit ___________

A) cannot be combined with any other signal

B) can be combined with other signal leading to different routes

C) can be combined with signal leading to same route and having common control track ckts

D) cannot combined with shunt signals (ANS:C)

8. Shunt signal Knob Used in PI having __________

A) single position

B) Two positions

C) Three positions

D) four positions (ANS:B)

9. In Signal RR circuit Knob R band bridged or Bypassed with __________ contact to prevent the unauthorized normalization of signal in case SM key is out.

A) SMCR pickup

B) SMCR drop contact

C) RR pickup

D) RR drop contact (ANS:B)

10. UCR is_______________________

A) Normally Pickup, drops when signal is initiated

B) Normally drop, picks up when signal is initiated

C) Normally Pickup, drops after clearing the signal

D) Normally drop, picks up after clearing the signal (ANS:B)

11. UCR_____________

A) UCR Can be combined for signals leading to same routes

B) UCR Can be combined for signals leading to different routes

C) Each signal have separate UCR

D) starter signal and shunt signal UCR cannot be combined (ANS:C)

12. To achieve the locking of conflicting signals, in the UCR circuit _____________ or______________ contact used

A) ASR front, UCR front

B) ASR front, UCR back

C) ASR back, UCR back

D) ASR back, UCR front (ANS:B)

13. In UCR circuit __________ contact used for cross protection and ___________contact used for double cutting

A) RR front, RR front

B) RR back, RR back

C) RR Back, RR front

D) RR front, RR back (ANS:C)

14. ASR is_______________________

A) Normally Pickup, drops after picking HR

B) Normally drop, picks up after picking HR

C) Normally Pickup, drops after picking UCR

D) Normally drop, picks up after picking UCR (ANS:C)

15. In ASR circuit ______________ proved

A) UCR front contact

B) UCR back contact

C) Both front and back

D) UCR & HR front contact (ANS:B)

16. In ASR circuit_______________

A) Indication and Back locking only proved

B) Back locking and approach locking only proved

C) Indication locking, back locking and Approach locking proved

D) indication locking and Approach locking Proved (ANS:C)

17. Home signal with Approach Track circuit case, Route can be released in how many ways?

A) Two ways

B) Three ways

C) Four ways

D) Five ways (ANS:D)

18. When signal is not taken OFF , any one of the back lock Track circuit fails___________

A) full route will be locked

B) Signal Route will not lock

C) partially Route will lock

D) Locks overlap portion (ANS:B)

19. In HR circuit crank handle _____________ contacts proved

A) CHLR up & CHFR down

B) CHLR up & CHFR UP

C) CHLR down & CHFR down

D) CHLR down & CHFR up (ANS:A)

20. To prove that conflicting signal are not taken off _________ contacts used in HR circuit

A) ASR pickup or UCR drop

B) ASR pickup or UCR drop

C) ASR drop or UCR drop

D) ASR DN or UCR up (ANS:A)

21. In HR circuit concern signal ___________ contacts are Proved

A) Concern signal RR front, UCR front, ASR front

B) Concern signal RR front, UCR back, ASR front

C) Concern signal RR front, UCR front, ASR back

D) Concern signal RR front, UCR back, ASR back (ANS:C)

22. In HR circuit ________ contacts used for cross protection

A) UCR back or ASR front

B) UCR back or ASR back

C) UCR front or ASR back

D) UCR front or ASR front (ANS:A)

23.In HR circuit _______________ contacts used for double cutting

A) UCR front

B) ASR back

C) Both A&B

D) WLR & ASR (ANS:C)

24. Home signal route indicator________________

A) Lit for Main Line, not lit for loop line

B) Lit for main line, loop line

C) Not lit for main line, lit for loop line

D) Neither for (ANS:C)

25. While receiving Train, any back lock track circuit fails _________

A) If normal cancellation applied Signal route will release immediately

B) If normal cancellation applied Signal route will release after time delay

C) CO-ON cancellation or Super Emergency Route release has to apply

D) Normal or CO-ON cancellation both not possible (ANS:C)

26. Distant signal HHG aspect controlled by

A) Home signal HG and ahead signal HG/DG

B) Home signal DG and ahead signal HG/DG

C) Home signal DG and UG

D) Home signal HG only (ANS:D)

27. UYRs are made ________

A) Slow to pickup

B) Slow to release

C) Slow to pick and slow release

D) No slow pick up and slow to release (ANS:B)

28. JSLR are made ____________________

A) Slow to pickup Slow to release

B) Slow to pick and normal release

C) Slow release only

D) No slow pickup and slow to release (ANS: C)

29. In sequential route release circuit ASR _________ contacts are proved

A) Front

B) Back

C) Both Front and back

D) Neither Front Nor Back (ANS:B)

30. UYRS made slow to release to allow____ Relay to pickup and stick through its own contact

A) JSLR B) ASR C) Both JSLR &ASR D)UCR

(ANS:B)

31. Pickup of all UYRs ensure______________________

A) Sequential arrival of train

B) Directional movement

C) Route released

D) Both A&B (ANS:D)

32. ASR stick path bypassed with__________________ contacts

A) UCR back contact, Knob, back lock track circuits, UYRs

B) Knob, back lock track circuits, UYRs

C) back lock track circuits, UYR only

D) UCR, back lock track circuits, UYRs (ANS:B)

33. In case of Approach track circuit , if cancellation applied ______________________

A) Route will be released after time delay if Approach track circuits are occupied

B) Route will be released immediately if Approach track circuits are free

C) In all the cases route will be released after time delay

D) Both A&B (ANS:D)

34. In case of Approach track circuit , if cancellation applied ______________________

A) Route will be released immediately even though Approach track circuits are occupied

B) Route will be released immediately if Approach track circuits are free

C) In all the cases route will be released after time delay 120 sec

E) In all the cases route will be released after time delay 60 sec (ANS:B)

35. In UYR circuit, ASR__________ contact and TSR __________________contact used

A) Front, back

B) Back, front

C) Back, back

D) Front, front (ANS:C)

36. In JSLR circuit ____________________contacts are used

A) ASR front & NJPR front B) ASR front & NJPR back

C) ASR back & NJPR front D) ASR back & NJPR back (ANS:D)

37. After clearing the home signal Overlap points_________________

A) Will be locked till the train clears back lock track circuits

B) Will be locked till the train clears back lock track circuits and ASR picks up

C) Will be locked till the route has been released and time delay of 120 sec completed after releasing the route.

D) Will be released immediately after normalising the knob (ANS:C)

38. Overlap cancellation time is____________________

A) 60 sec

B) 120 sec

C) 180 sec

D) 240 sec (ANS:B)

39. Overlap cancellation starts after_____________________

A) picking of UYR1

B) picking of All UYRs

C) picking Signal ASR and if ahead starter ASR in pickup condition

D) picking Signal ASR and if ahead starter ASR in drop condition (ANS:C)

40. OVSR _______________

A) Normally pickup, drops when signal cleared to concern overlap

B) Normally Drop, picks up when signal cleared to concern overlap

C) Normally Drop, picks up after dropping ASR

D) picks up during signal initiation and drops after clearing the signal (ANS:A)

41. For clearing CO-ON signal_________________

A) points in the route only required

B) points in the Route including isolation required

C) points in the route and all the isolation points required

D) all the points in the route, overlap including isolation required (ANS:B)

42. WLR relay is__________________

A) Normally drop, picks up when point operation initiated and all other conditions are satisfied

B) Normally pickup, drops up when point operation initiated and all other conditions are satisfied

C) Normally drop, picks up after setting the point

D) Normally pick up, drops up after setting the point (ANS:A)

43. In WLR circuit ______________________ contacts are used to ensure points are not locked under any route

A) ASR front & OVSR back

B) Both ASR & OVSR front

C) Both ASR & OVSR back

D) ASR back & OVSR front (ANS:B)

44. In WLR circuit point zone Track circuit contacts are bridged with ___________contacts for ensuring completion of point operation while operating point if track circuit fails.

A) WLR front

B) WLR back

C) WLR & ASR front

D) WLR & ASR back (ANS:A)

45. In WLR circuit NWKR/RWKR back contacts proved to ensure_______________

A) To drop WLR Relay after setting point

B) if Already point set to required position, to prevent initiation of point operation

C) Both A&B

D) To check out of correspondence (ANS:C)

46. PCR is _________________

A) Heavy duty QBCA1 Relay

B) Heavy duty QECX Relay

C) Normal QNA1 Relay

D) Heavy duty QSPA1 Relay (ANS:A)

47. In NWR circuit _____________contacts are used to ensure Dropping of NWR after setting the point to Normal at outdoor location.

A) WNKR front

B) WNKR Back

C) Own front

D) WRKR front (ANS:B)

48. WJR Picks up when______________

A) NWR/RWR pickup and WXR drop

B) NWR/RWR pickup and WXR pick up

C) NWR/RWR drop and WXR drop

D) NWR/RWR drop and WXR pick up (ANS:A)

49. WXR picks up when___________

A) NWR/RWR pickup and WJR drop

B) NWR/RWR pickup and WJR pick up

C) NWR/RWR drop and WJR drop

D) NWR/RWR drop and WJR pick up (ANS:B)

50. In WJR Stick path ________________contacts are used to drop WJR after setting the point

A) WNKR &WRKR pickup

B) WNKR &WRKR drop

C) NWKR & RWKR pickup

D) NWKR & RWKR drop (ANS:B)

51. In WCR circuit _______________contacts used for cross protection of relay

A) Both NWR & RWR front

B) NWR front & RWR back contact

C) NWR back & RWR front

D) Both NWR & RWR back (ANS:D)

52. In NWKR circuit, WLR back contact bridged with __________contact, this contact is used to ensure correspondence between point detection at site and knob position.

A) NCR drop

B) RCR pickup

C) A&B

D) NCR pickup (ANS:D)

53. Crank handle coil supply extended through ________ contacts

A) Both CHFR & CHLR front

B) CHFR front & CHLR back

C) CHFR back & CHLR front

D) Both CHFR & CHLR back (ANS:B)

54. When Route is divided in to small sub route sections. First sub route controlled by ____

A) ASR

B) TRSR

C) TLSR

D) All the above (ANS:D)

55. CHFR___________

A) Picks up when none of the points in the group are locked under any route

B) Drops when all the points in the group are locked under any route

C) Drops when any of the points in the group are locked under any route

D) both A&C (ANS:D)

56. TLSR______________

A) Normally pickup , Drops when signal movement takes from left to right

B) Normally drop, picks up when signal movement takes from left to right

c) Normally pickup, Drops when signal movement takes from right to left

D) Normally drop, picks up when signal movement takes from right to left (ANS:C)

57. TRSR______________

A) Normally pickup, Drops when signal movement takes from left to right

B) Normally drop, picks up when signal movement takes from left to right

c) Normally pickup, Drops when signal movement takes from right to left

D) Normally drop, picks up when signal movement takes from right to left (ANS:A)

58. NNCR _____________

A) Normally drop, Picks up when any button stuck up on panel

B) Normally Pick up, drops when any button stuck up on panel

C) Normally pickup, drops any stuck up button released

D) Normally drop, picks up when any stuck up button released (ANS:B)

59. WLR relay___________

A) When picks up locks the point Electrically

B) When drop locks the point Electrically

C) When picks up locks the point Mechanically

D) When drop locks the point Mechanically (ANS:B)

60. The GECR relay _____________

A) Normally drop, picks up when any one of the signal aspect fails

B) Normally drop, picks up when all the signal aspects fails

C) Remains in pickup when any one of the aspects is burning in the signal

D) both B&C (ANS:C)

CHAPTER-5 : Route Setting type Relay Interlocking (RRI)

1. In GNR circuit, SMR ___________________ contacts proved

   A) front

   B) Back

   C) Both front and back

   D) Neither front Nor back

(ANS:D)

2. GNCR ________________

   A) Normally pickup

   B) Normally drop

   C) picks up when GN button is pressed

   D) Picks up when GN & UN button pressed

(ANS:A)

3. When GN button pressed __________

   A) Both GNR & GNCR relays picks up

   B) GNR picks up & GNCR drops

   C) GNR drops & GNCR picks up

   D) GNR drops & GNCR drops

(ANS:B)

4. In GNR Circuit ________________contacts proved

   A) WNCR pickup & UNCR Drop

   B) WNCR pickup & UNCR pickup

   C) WNCR drop

   D) Both GNCR & WNCR pickup

(ANS:C)

5. UNR Circuit _________________contacts proved

   A) SMR pickup & WNCR Drop

   B) Both SMR & WNCR Pickup

   C) GNCR pickup & WNCR pickup

   D) GNCR pickup & WNCR Drop

(ANS:B)

6. WNR circuit_______________ contacts proved

   A) GNCR pickup & WNCR drop

   B) Both GNCR & UNCR pickup

   C) Both GNCR & WNCR pickup

   D) GNCR pickup & UNCR drop

(ANS:B)

7. Slot transmission button Relay Nomenclature is________________

A) GSNBR

B) GSBRNR

C) GSRBNR

D) GSBNR (ANS:D)

8. Slot Receive Button Nomenclature is

A) GSNBR

B) GSBRNR

C) GSRBNR

D) GSBNR (ANS:C)

9. In GSBNR circuit ________________contacts proved

A) Both SMR & UNCR pickup

B) Both SMR & WNCR pickup

C) Both SMR & GNCR pick up

D) Both SMR & GSRBNR pickup (ANS:C)

10. In EGGNR circuit SMKEY__________ contact proved

A) Front

B) Back

C) Both Front & Back

D) Neither front Nor Back (ANS:A)

11. IN RRI ________________

A) RR will be used for all the signals

B) RR will be used for Reception signals only

C) RR will be used for Main line signal only

D) RR will be used for Shunt signals (ANS:B)

12. IN RR circuit ______________contacts used to drop RR relay automatically when Train receiving

A) ASR front

B) ASR Back

C) UYR front

D) UYR Back (ANS:D)

13. NRR_________

A) Normally drop, Picks up when GN & WN pressed

B) Normally drop, Picks up when GN & UN pressed

C) Normally Pickup, Drops when GN & UN pressed

D) Normally Pickup, Drops when GN & WN pressed (ANS:B)

14. The Moment NRR picks up __________

    A) concern NNR drops

    B) Initiates point operation

    C) picks up RR

    D) Both A&B (ANS:D)

15. NRR Drops when______________

    A) Signal cancellation initiated

    B) Train travelled on set route and ASR already pickup

    C) Train travelled on set route and UYRs pickup

    D) A &C (ANS:D)

16. In Block release circuit _________________ contacts used

    A) RR

    B) NRR

    C) NNR

    D) NRR & NNR (ANS:A)

17. NNR is _________________

    A) Normally Drop, Picks up after initiating the signal

    B) Normally Pick up, Drops after initiating the signal

    C) Picks up after picking RR

    D) Normally Pickup, Drops after dropping ASR (ANS:B)

18. NNR picks up when ________________

    A) Both NRR & ASR picked up

    B) NRR drop and ASR picked up

    C) NRR Pickup and ASR pickup

    D) Both NRR & ASR Drop (ANS:B)

19. IN NRR circuit ______________contacts used for cross protection of relay

    A) Both RR & NRPR front

    B) RR front & NRPR back

    C) RR back & NRPR front

    D) Both RR & NRPR back (ANS:D)

20. IN NLR circuit NWKR _______________contact used to ensure_______________

    A) Back, if already point set to normal prevent the initiation of point operation

    B) Front, if already point set to normal prevent the initiation of point operation

    C) Back, to operate point to normal

    D) Front, to operate point to Reverse (ANS:A)

21. IN NLR circuit NWKR _______________contact used to ensure_______________

A) Front, if already point set to normal prevent the initiation of point operation

B) Back , to drop NLR after setting the point to normal

C) Back, to operate point to normal

D) Front, to operate point to Reverse (ANS:B)

22. In NWLR circuit _______________contact used to ensure_________________

A) NWKR back contact, if already point set to normal prevent the initiation of point operation

B) NWKR Front contact, if already point set to normal prevent the initiation of point operation

C) RWKR front, to drop NWLR after setting the point to normal

D) RWKR back, to drop NWLR after setting the point to normal (ANS:A)

23. Identify False statement

A) ASWR normally drop

B) ASWR Picks up when NWLR/ RWLR pick up & NCR/RCR drop

C) ASWR Picks up when NWLR/ RWLR pick up & NCR/RCR Pick up

D) ASWR Drops after picking NCR/RCR (ANS:C)

24. Identify false statement

A) AS1WR made slow to release

B) AS1WR picks up if all points required point operation

C) AS1WR pick up if any point required operation

D) AS2WR back contact used in AS1WR circuit (ANS:B)

25. In WWFR Circuit last point in the chain group WWR contact is bridged with __________ contact to ensure completion of point operation

A) AS2WR pickup

B) AS1WR pickup

C) Concern ASWR pickup

D) WWFR Pickup (ANS:C)

26. AS2WR picks up____________

A) when AS1WR drop and WWFR pick up

B) Both AS1WR & WWFR drop

C) when AS1WR pickup and WWFR drop

D) Both AS1WR & WWFR pick up (ANS:D)

27. In RRI Auto chain operation case identify false statement___________

A) When NCR picks up concern ASWR picks up

B) picking of NCR drops concern ASWR

C) once NCR picks up sticks through own contact until next operation initiated

D) NCR picks up in both Auto &manual individual point operation (ANS:A)

28. Emergency point operation can be__________

A) possible when Track is clear also

B) possible when point is locked under route and point zone track circuits are occupied

C) Possible when point is locked under any route and point zone track circuits are clear

D) Possible when point is not locked under any route and point zone track circuits are occupied (ANS:A)

29. Track Locking is proved in __________circuit

A) NWLR & RWLR

B) NCR/RCR

C) NLR/RLR

D) Both B&C (ANS:A)

30. With the help of one front contact maximum ______ No of repeater relays can be energized

A) Two

B) Three

C) Four

D) Six (ANS:B)

31. When Train Arrives to berthing track and stops at the foot of the starter

A) Overlap releases immediately

B) overlap Releases after time delay of 120 secs

C) overlap Releases after time delay of 60 secs

D) No effect on overlap (ANS:B)

32. When the signal is taken OFF, if SM turns LC gate control knob to reverse______

A) LC Gate Extraction possible immediately

B) LC gate extraction Possible without any cancellation

C) LC gate Extraction possible with cancellation and after time delay of 120 secs

D) LC gate can be possible to open at any time (ANS:C)

33. When GN button is pressed, -------------- relay drops.

A) GNR

B) GNCR

C) UNCR

D) UNR (ANS: B)

34. Keeping S1GN button in pressed condition, if S2GN button pressed, then

A) S2GNR alone picks up

B) S1GNR alone picks up

C) S2GNR & S1GNR both pick up

D) S2GNR & S1GNR both drop (ANS: B)

35. In ------------- circuits, SMR contact is not proved.
    A) GNR
    B) EGGNR
    C) Both GNR & EGGNR
    D) GNR & UNR (ANS:C)

36. When a Home signal GN and EGGN buttons are pressed simultaneously, -------------- relay drops firstly, and thereby HR drops to throw a cleared signal to danger.
    A) RR
    B) NRR
    C) NNR
    D) UYR1 (ANS:A)

37. If a button is struck on the panel, --------------- relay drops to give buzzer.
    A) NCR
    B) RCR
    C) NNCR
    D) NLR (ANS:C)

38. When SM key is taken out from panel, ------------- relay cannot pick up.
    A) GNR
    B) EGGNR
    C) UNR
    D) GNR & EGGNR (ANS:C)

39. When UN button is pressed, ------------relay drops.
    A) UNR
    B) GNR
    C) GNCR
    D) UNCR (ANS:D)

40. ----------- NRR relay front and NNR relay back are proved in NLR circuit.
    A) Signals for which that point is required in Reverse.
    B) Signals for which that point is required in Normal.
    C) Signals for which that point is required in Normal or Reverse
    D) Signals for which that point is not required. (ANS:B)

41. During automatic point operation, when NWKR picks up, ------------ relays drop.
    A) NLR
    B) NWLR
    C) Both NLR & NWLR
    D) RLR

(ANS:C)

42. For every automatic point operation, ------------WWRs will pick up.
    A) Only points required for that route
    B) All points in the yard
    C) Only overlap points
    D) Only Isolation points (ANS:B)

43. For every automatic point operation, ------------- ASWRs are picked up.
    A) All points
    B) Points not required for the route
    C) Points required for the route
    D) None of the points (ANS:C)

44. --------- Contact of GNR is proved in HR circuit.
    A) Front
    B) Back
    C) None
    D) Front and back (ANS:B)

45. The GNR back contact is bypassed by ----------- contact of HR.
    A) Back
    B) Front
    C) Neither front nor back
    D) Both front and back (ANS:B)

46. TLSR/TRSR is normally -------------- relay.
    A) Pick up
    B) Drop
    C) Cannot say
    D) During signal movement pick up (ANS:A)

47. When point at site is in normal, ------------------ relay in relay room is in pick up.
    A) RCR
    B) RLR
    C) NLR
    D) NCR (ANS:D)

48. NWLR relay picks up when ---------------
    A) Manual point operation to normal
    B) Emergency point operation to normal
    C) Automatic point operation to normal
    D) Manual/Emergency/Automatic point operation (ANS:D)

49. ASWR is normally ---------- relay.

A) Drop

B) Pick up

C) Cannot say

D) Pickup/ drop (ANS: A)

50. In sectional route release, the first route section is controlled by ------

A) TLSR

B) TRSR

C) TSR

D) ASR (ANS:D)

51. During sectional route release if ASR fails to pick up during train movement, then TLSR/TRSR ------------

A) Can pick up

B) Cannot pick up

C) Cannot say

D) Depends on track sections in TLSR/TRSR control (ANS:B)

52. The home S1DR to pick up, --------- conditions required.

A) S1HR pick up for main line

B) Main line starter DR pick up

C) Main line starter DG burning

D) S1HR pick up for main line & Main line starter DG burning (ANS: D)

53. The route set indications on the panel are given through ----------

A) ASR pick up

B) ASR drop

C) OVSR srop

D) ASR/OVSR/TLSR/TRSR drop (ANS:D)

54. The track occupied/ failed indications on panel are given through ----

A) TPR up

B) TPR down

C) TLSR down

D) TRSR down (ANS:B)

55. The point chain operation is provided for ---------- purpose.

A) To safe guard the battery from overload

B) Cannot say

C) To safe guard the point machine

D) To save relays (ANS: A)

56. ------------ Relays are provided with stick path in point control circuit.
    A) NLR
    B) RLR
    C) NCR
    D) NCR & RCR (Ans: D)

57. The relay in relay room remains in pick up, after completion of point operation to normal.
    A) NLR
    B) RLR
    C) RCR
    D) NCR &NWKR (ANS: D)

58. During emergency point operation alone, ------------ relay is picked up and dropped.
    A) NLR
    B) RLR
    C) EW(NR)CR
    D) Cannot say (ANS: C)

59. During automatic point operation alone, --------- relays are picked up.
    A) NLR
    B) RLR
    C) Cannot say
    D) NLR & RLRs (ANS: D)

60. The PCR relay is picked up through ------------------- contact of --------- relay.
    A) Front , NWLR
    B) Back, NWLR
    C) Front, NWLR/RWLR
    D) Back, NWLR/RWLR (ANS:C)

61. The WNR back in parallel with ---------- contact is proved in NWLR circuit for mid stroke reversal.
    A) RWWNR front
    B) RWWNR back
    C) NWWNR front
    D) NWWNR back (ANS:B)

62. The WJR relay drops, when -----------
    A) After completion of point detection
    B) After discharging of condensers
    C) After completion of point detection or after discharging of condensers
    D) WCR picks up (ANS:C)

63. LX JSLR relay is ___________________________

A) Slow to pickup

B) Slow to release

C) Both slow to pickup & slow to release

D) Normal (ANS :B)

64. In CHRR circuit CHNR back contact bye passed with __________ contact to Ensure dropping of CHRR

A) GSBNR back

B) GSRBNR back

C) CHFR

D) CHYR (ANS: B)

65. In signal NNR circuit _________________contacts are byepasse3d with NNR front contacts

A) ASR pickup

B) ASR drop

C) UCR pickup

D) UCR drop (ANS: A)

66. NWLR Relay picks up during ______________________________

A) Individual point Normal operation

B) Normal Auto operation

C) Emergency Normal point operation

D) In All operations (ANS: D)

67. NCR Relay picks up during ______________________________

A) Individual point Normal operation

B) Normal Auto operation

C) Emergency Normal point operation

D) In All operations (ANS: D)

68. ASWR relay pickup during

A) Individual point operation

B) Auto operation

C) Emergency point operation

D) In All operations (ANS: B)

69. IN NWSR/RWSR circuit, detection contacts are bye passed with _________________ contacts

A) NWSR back & CHLR front

B) NWSR front & CHLR back

C) NWSR front & CHLR front

D) NWSR back & RWSR back (ANS:C)

70. In NRR circuit GNR back contact bye passed with ________________contact

   A) NRPR front
   B) NRPR back
   C) UCR back
   D) UCR front (ANS: A)

71. NLR relay Picks up during ____________________

   A) Individual point Normal operation
   B) Normal Auto operation
   C) Emergency Normal point operation
   D) In All operations (ANS: B)

72. HR signal is made____________________

   A) Slow to Release
   B) Slow to pick up
   C) Both slow to pickup and slow to release
   D) No time delay (ANS: A)

CH-1 : Introduction

1. For any vital operation buttons are to be pressed simultaneously é é .
   a) One
   b) **Two**
   c) Three
   d) Four.

2. Types of Flasher Relays is used in Siemens Installation é é .
   a) Electronics
   b) **Mercury**
   c) K-50
   d) Interlocked

3. Types of Timer Relays used in Siemens Installation é é .
   a) Thermal
   b) Electronic
   c) Double coil
   d) **Clock Work**

4. Signal controls are placed on the principle of é é ..
   a) Entry-Exit b) Exit to Exit
   c) Entry ï Exit d) Entry Only.

5. Circuits are drawn as é ..
   a) Left to Right b) Verticals
   c) Right to left d) **Top to Bottom.**

6. Relay Groups are useful foré é ..
   a) **Less no of terminals** b) More no of terminals
   c) Without terminal d) complex wiring

7. Modular design of relay groups makes it possible for easyé ..
   a) Replacement
   b) Makes Wiring Complex
   c) Uniform Gear Control.
   d) Easy for fault finding.

8. Tag Blocks are used asé
   a) Interface between Relays base and External Circuit.
   b) Used only to connect Relay Base.
   c) Used only to connect CT Rack.
   d) Used only to connect Panel.

CHAPTER – 2 : Control panel

1. Number of Compartments in Domino Strips isé é

a) 20 b) 16 **c) 15** d) 12

2. In Domino strips pin number served as common negativeé .

a) 20 **b) 16** c) 15 d) 12

3. The location of any panel section is identified by its é é ..

a) **Column number followed by its row number.**

b) Row number followed by its column.

c) By its Relay rack number

d) By its IDF number.

4. WN Buttons Blue with white dot on top is used for é ..

a) Full route cancellation b) Only for point operation

c) only for Sub Route Cancellation **d) Point Operation and Sub Route Cancellation.**

5. Common Button to replace a cleared Signal to ôONö é é

a) EWN b) EUUYN **c) EGGN** d) YYN

6. Common Button to introduce Auto working of a Main Signal

a) CH-YN b) AGGRN c) YYN **d) AGGN**

7. Common Overlap Release Buttoné é

a) **OYN** b) KLN c) KLCR d) UN

8. Emergency Point operation Counter

a**) EWZ** b) EUYZ c) EUUYZ d) OYZ

9. Emergency Sub-Route Release Counter

a**)** EWZ b) EUYZ c) **EUUYZ** d) OYZ

10. Emergency Full Route Release Counter

a) EWZ **b) EUYZ** c) EUUYZ d) OYZ

11. Overlap Release Counter..

a) EWZ b) EUYZ c) EUUYZ d) **OYZ**

12óCalling onôSignal Operation Counter

a) **COGGZ)** b)EUYZ c) EUUYZ d) OYZ

13. LXN Buttoné ..

a) Level crossing control release button.

b) (Point) Key Lock Release Button.

c) Crank Handle Release Button.

d) Common Slot Return Acknowledgement button

14. YRN Buttonsé .
    a) Level crossing control release button.
    b) (Point) Key Lock Release Button.
    c) Crank Handle Release Button.
    d) Common Slot Return Acknowledgement button

15. YYN Buttoné é
    a) Level crossing control release button.
    b) (Point) Key Lock Release Button.
    c) Crank Handle Release Button.
    d) Common Slot Release Button.

16. Normal Indication for Track Circuit on Panel without route initiation
    a) No Indication.
    b) Turn to Red with route initiation.
    c) Turn to Yellow with route initiation.
    d) Flashes with route initiation.

17. Indication on panel, If DG lamp of Signal gets fused é é ,
    a) Signal displays HG aspect since cascading control.
    b) Green indication starts flashing and steady Yellow indication appears on signal demarcation.
    c) Only Green Indication flashes.
    d) Red Steady indication appears on signal demarcation.

18. Indication on panel, If HG lamp of Signal gets fused é é ,
    a) Yellow flashing and Red Steady indication appears on signal demarcation.
    b) Red Steady indication appears on signal demarcation.
    c) Only Green Indication flashes.
    d) Green indication starts flashing and steady Yellow indication appears on signal demarcation.

19. Indication on panel when, Track circuit failed with route setting
    a) Indication turns to red from yellow.
    b) Turn to Red with route initiation.
    c) Turn to Yellow with route initiation.
    d) Flashes with route initiation.

20. Indication on panel, when point failed without any route and overlapé
    a) Steady indication over point strip.
    b) Flashing indication over point strips.
    c) Locking Indication flashes.
    d) Both Locking and strip indication flashes.

21. Indication on panel, If RG lamp of Signal gets fused é é ,

    a) Yellow flashing and Red Steady indication appears on signal demarcation.

    b) Red Steady indication appears on signal demarcation.

    c) Only Red Indication flashes.

    d) Green indication starts flashing and steady Yellow indication appears on signal demarcation**.**

22. If more than two lamps are fused on Route Indicatoré

    a) White route indication flashes and Red indication appears on signal demarcation.

    b) Red indication appears on signal demarcation.

    c) White route indication flashes.

    d) Red flashing indication appears on signal demarcation.

23. Signal locks Route before clearing.

    a) Steady white spot indication appears above route button.

    b**)** Flashing white spot indication appears above route button.

    c) Red flashing indication appears on signal demarcation.

    d) White route indication flashes.

Chapter-3 : Relay Groups and its arrangement

1. Capacity of Minor to accommodate max relays.

   a) 30 b) 2 **c)15** d)16

2. Capacity of Major group to accommodate max relays.

   a) 30 b) 2 c)15 d)16

3. One Point Group can controlled é é

   a) One Cross Over b) Three Cross over

   c) four crossover d) five cross over

4. For A type relays thickness of residual pin is é .

   a) **0.35 mm** b) 0.45 mm c) 0.15 mm d) 0.05 mm

5. For B type relays thickness of residual pin is é .

   a) 0.35mm b) 0.45 mm c) **0.15 mm** d) 0.05 mm

6. For E type relays thickness of residual pin is é .

   a) 0.35 mm b) **0.45 mm** c) 0.15 mm d) 0.05 mm

7. For Neutral Relays Pick up time is

   a) **25ms to 60ms** b) 7ms to 15ms.

   c) 120 Seconds d)60 seconds

8. For Neutral Relays drop away time is

   a) 25ms to 60ms b**) 7ms to 15ms**

   c) 120 Seconds d)60 seconds

9. Guide pins are provided to prevent plugging of relay in a

   a) in a wrong direction

   b) inverting the position of relay.

   c) to prevent the plugging of wrong relay in a base.

   d) for neutral relays only.

10. For any combination of K-50 Relays contact number 05 and 15 are always

    a) always Front contact

    b) **always Back contact**

    c) inter changeable contact

    d) inter changeable contact.

11. For any combination of K-50 Relays contact number 02 and 12 are always

    a) always Front contact

b) always Back contact

c) inter changeable contact

d) inter changeable contact.

12. For any combination of K-50 Relays contact number 03 and 13 are always

a) always Front contact

b) always Back contact

c**) inter changeable contact**

d) inter changeable contact.

13. Relay is used to provide One Train-One Signal feature

a**) GLSR** b) GR1 c) GR2 d) GR3

14. GR1 is made slow to release to...

a) prevent cleared signal going to danger

b) to pickup GLSR

c) to pickup GNR

d) to drop GNR

15. Universal Route Group can controlled

a) Two Route Section b) Three Route Section

c) four Route Section d) Without Route Sections.

16. In Universal route group number of UDKRs are

a) Tow b)Three c) Four **d) One**

17. In Route Group DUCR detect the position of

a)Point b) Signal c) Route Section d) GLSR

18. U(R)LR is a é é

a) Sub Route Locking Relay b) Signal Locking Relay

c) Point Locking Relay d) Shunt Locking Relay

19. When W(R)R picks up it switch on é é é

a) 110V DC b) 60 V DC c) 24 DC d)12 V DC

20. When W(N)R picks up it switch on é é é

a) 110V DC **b) 60 V DC** c) 24 DC d)12 V DC

21. This relay detects the correct setting and locking of point in either position

a) WKRI b) WKR2 c) WKR3 d) Z3WR

22. This is also called as ñCross Protection Relayò.

a) WKRI **b) WKR2** c) WKR3 d) Z3WR

23. This Relay is also called as an ñEnd Position Proving Relayò.

a) WKRI b) WKR2 **c) WKR3** d) Z3WR

24. This is a double coil relay. It checks that the point group is initiated due to route setting only

a) WKRI b) WKR2 **c) WLR** d) Z3WR

25 . This is the first relay to pick-up in a point major group for automatic point operation under route setting conditions.

a) WKRI b) WKR2 **c) Z1WR** d) Z3WR

26. This relay picks up when the point is operated during route setting to give indications on point zone tracks in the route or overlap set for more important move.

a) WKRI b) WKR2 **c) Z2WR1** d) Z3WR

27. This relay picks up when the point is operated during route setting to give indications on point zone track in the route or overlap set for less important move.

a) WKRI b) WKR2 **c) Z2WR2** d) Z3WR

28. This Relay initiates Point Chain Group

a) WKRI b) WKR2 **c) Z3WR1** d) Z3WR

Chapter-4 : Route Section Plan

1. The Route sections are marked with é ..

a) Dotted Lines **b) Thick Lines**

c) Combination of both d) No marking.

2. The Signal Route is divided into é ..

a)Sub Route b) Route Section

c) Zone d) Overlap

3. The Sub Route is divided intoé é

a)Sub Route **b) Route Section**

c)Zone d) Overlap

4. One Sub Route may consist of é .

a) Only Two Route Section

b) Two or Three Route Section

c) four Route section

d) Five Route section

5. One Route Group Can controlled onlyé

a) Two Route section

b) Three Route section

c) Two or Three Route Section

d) Five Route section

6. Route Group controlled the activity of points in the

a) Route b) Overlap

c) Isolation d) None of the Option

7. When AU(R)S is set position of point required is

a) Normal b) Reverse

c) May be reverse d) Both Normal and Reverse

8. When BU(R)S is set position of point required is

a) Normal **b) Reverse**

c) May be reverse d) Both Normal and Reverse

9.In route Group relays checks that point zone area is clear..

a) DUCR **b) UDKR** c) U(R)LR d) UYR1

10 Relays Checks correct setting of Point in Normal

a) A DUCR b) UDKR c) U(R)LR d) UYR1

11. Relays Checks correct setting of Point in Reverse

a) A DUCR b) UDKR **c) B DUCR** d) UYR1

12. Relay ensured that only One Route Section is set

a) U(R)LR b) UDKR c) UYR1 d) UYR2

13. The Overlap are marked with

a) Dotted Lines b) Solid Lines

c) Combination of both d) No marking

14. OV1Z2U(R)R Operates and locks the Point in

a) Normal b) Reverse

c) May be reverse d) Both Normal and Reverse

15. OV2Z2U(R)R Operates and locks the Point in

a) Normal **b) Reverse**

c) May be reverse d) Both Normal and Reverse

16. A Sub Route Without point is named afteré ..

a) Point in the Route

b) Point in the Overlap

c) Signal Number falling on the Route section

d) Point in the Isolation

17. A Sub Route Without point can be used foré .

a) **Holding GLSR** b) Holding GR1

c) Stick path to GR1 d) Stick path to GLSR

18. Route Releasing Relays are

a) **UYR1 & UYR2** b) Only UYR1

c) Only UYR2 d) U(R)S

19. When U (N)LR is set it indicates

a) **Sub Route is locked**

b) Sub Route is Unlocked

c) AU(R)S is set

d) B U(R)S is set

20. In case of RRI Route Section are also used for

a) Point Operation in Route

b) Slot Operation

c) Gate Operation

d) Point Operation on Overlap

21. In case of RRI Overlaps are also used for

a) Point Operation in Route

b) Slot Operation

c) Gate Operation

d) Point Operation on Overlap

22. A Sub Route without point after Home Signal Ensures é é é

a) Block Overlap b) Signal Overlap

c) Both Block and Signal d) Only Signal Overlap

23. A Sub Route without point after Starter Signal Ensures

a) Block Overlap b**) Locking of Home Signal**

c) Both Block and Signal d) Only Signal Overlap

24. In Case of Parallel Movements an Sub Route is used with

a) A Sub Route with Three Route Section

b) A Sub Route with Two Route Section

c) A Sub Route only

d) Two Sub Route with Two route Section

Chapter-5 : principles of operation for various gears

1. In the ________stage, interlocking and other safe conditions are verified and confirmed before changing the position of controlled gear.

a) Initiation b) Control c) Checking and d) Locking

2. In the _________ôstage, initiation is proved and operating feed is connected to the gear after checking the integrity of relays involved in the process

a) Initiation **b) Control** c) Checking and d) Locking

3. In the _____________ stages, the changed condition of gear is ascertained

a). Initiation b) Control c) **Checking** d) Locking

4. In the________ stage, it is proved that the point is free from route locking as well as track locking

a) Initiation b) Control c) Checking d) Locking

5.. An emergency common pointôs button (EWN) is pressed along with the individual Button

a) GN b) UN **c) WN** d) WWN

6. Signal Initiation and Route Initiation take place at a time, controls as Signal button and ______ together and released.

a) GN **b) UN** c) WN d) WWN

7. Once the direction is established, it is not possible to initiate any other signal

a) on the same route in opposite directions

b) On the same direction with different route.

c) On the same route with different Signal.

d) Shunting may be permitted.

9. Setting of a route section makes points é ..

a) **Locked** b) Free

c) can be free d) Only indication is used.

10. Setting of a route section locks

a) points and Crank Handle

b) Only points

c) Only Crank Handle

d) Only indication is used.

11. In RRI, setting of a route section includes operation of the concerned points

a) if they are not already lying in the required position, before locking them.

b) if they are lying in the required position, operates again and locking them.

c) Only Operates them.

d) Directly locks them.

12. Route Checking, with route setting involves proving of correcté ..

a) Correct point detection along with route setting and free condition of route section track circuits.

b) Correct point detection along with route setting only.

c) Only point is detected.

d) Only track circuits are checked.

13. The route section does not get normalised unless

a) this locking is released after the passage of train.

b) Partial passage of train.

c) Half Shunting passage.

d) Without any movement.

14. Shunt signal gets cleared before the Sh GN & UN are

a) buttons are released after operation.

b) Buttons are required to kept press.

c) By Releasing GN and keeping UN button pressed.

d) By Releasing UN and keeping GN button pressed.

15. For calling on signal control, operation is done only after

a) the occupation of Calling ON signal approach track circuit.

b) before the occupation of Calling ON signal approach track circuit.

c) With the Line Clear condition.

d) With the Train On Line Condition.

16. For calling on signal control,time delays starts with the

a) the occupation of Calling ON signal approach track circuit.

b) before the occupation of Calling ON signal approach track circuit.

c) With the Line Clear condition.

d) With the Train On Line Condition.

17. The route and overlap release leads to the release of

a) Signal locking and point locking.

b) Only Signal Locking

c) Only Point Locking.

d) Signal kept lock and Point locking releases.

18. The process known as ómanual route releaseôis initiated by the operator by means of three buttons asé é

a) EUUYN, GN & UN.

b) EUYN, GN & UN

c) EUYN, GN & WN

d) EUUYN, GN & OYN.

19. In case of track circuit failure in any section of the route set, the route section concerned can be released by the process of

a) automatic route release

b) manual route release.

c) With OYN Cancellation.

d) Sub Route cancellation only.

20. Emergency Operation which required Signal Engineer Authorisation is

a) Full Route Cancellation.

b) Overlap cancellation.

c) Emergency Point Operation.

d)Sub Route Cancellation

21. In case, a signal overlap has to be released in emergency, the pressing of

a) 'OYN' along with the 'UN' concerned behind the signal.

b) EUYN, GN & UN

c) EUYN, GN & WN

d) EUUYN, GN & OYN.

22. Crank handle slot can be release only whené

a) When the point is set in route only.

b) When the point is set in Overlap only.

c) When the Point is set and locked in Route.

d) When the point is free from Route Section and Overlap.

23. When route sections and overlaps involving the gate are normal, the panel operator presses

a) LXN along with YYN.

b) LXN along with YRN.

c) EUYN, GN & WN

d) EUUYN, GN & OYN.

24. When route sections and overlaps involving the gate are normal, the panel operator presses LXN along with YYN.

a)The steady white indication near LXN on the panel starts flashing.

b) The steady Red indication near LXN on the panel starts flashing.

c) The steady white indication near LXN on the panel steady.

d) Both white and Red Indication starts flashing.

25. For calling on signal control, time delays starts with the

a) Initiation of C-ON signal.

b) Without any Initiation just start with the occupation of C-ON Track.

c) Initiation of C-On and occupation of C-ON Track.

d) Without any Time delay.

26. Under normal condition Overlap can also released withé .

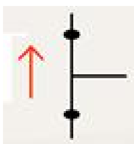
a) EUYN, GN & WN

b) EUUYN, GN & OYN.

c) EUYN, GN & WN

d) EUUYN, GN & UN.

CHAPTER – 6 : Symbols and nomenclature

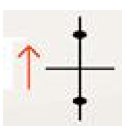
1.  Symbol Indicatesé é é é é

a) Neutral Relay, Normally Picked up, Make Contact i.e Front Contact

b) Neutral Relay, Normally Picked up, Break Contact i.e Back Contact

c) Panel Key IN Contact

d) Track Relay.

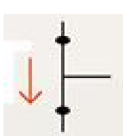
2.  Symbol Indicatesé é é é é

a) Neutral Relay, Normally Picked up, Make Contact i.e Front Contact

b) Neutral Relay, Normally Picked up, Break Contact i.e Back Contact

c) Panel Key IN Contact

d) Track Relay.

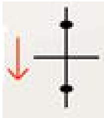
3.  Symbol Indicatesé é é é é

a) Neutral Relay, Normally Picked up, Make Contact i.e Front Contact

b) Neutral Relay, Normally Picked up, Break Contact i.e Back Contact

c) Panel Key IN Contact

d) **Neutral Relay, Normally Dropped, Make Contact i.e Back Contact**

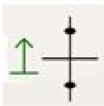
4.  Symbol Indicatesé é é é

a) Neutral Relay, Normally Picked up, Make Contact i.e Front Contact

b) Neutral Relay, Normally Picked up, Break Contact i.e Back Contact

c) Neutral Relay, Normally Dropped, Break Contact i.e Front Contact

d) Neutral Relay, Normally Dropped, Make Contact i.e Back Contact

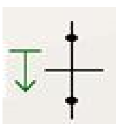
5.  Symbol Indicatesé é é é

a) Neutral Relay, Normally Picked up, Make Contact i.e Front Contact

b) Neutral Relay, Normally Picked up, Break Contact i.e Back Contact

c) Neutral Relay, Normally Dropped, Break Contact i.e Front Contact

d) **Interlocked Relay, Normally Picked up, Break Contact i.**e **Back Contact**

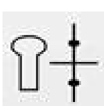
6.  Symbol Indicatesé é é é

a) Interlocked Relay, Normally Dropped, Break Contact i.e Front Contact

b) Neutral Relay, Normally Picked up, Break Contact i.e Back Contact

c) Neutral Relay, Normally Dropped, Break Contact i.e Front Contact

.d) Interlocked Relay, Normally Picked up, Break Contact i.e Back Contact.

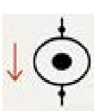
7.  Symbol Indicatesé é é é

a**)** Track Relay

b) Panel Key IN Contact

c) Neutral Relay, Normally Dropped, Break Contact i.e Front Contact

d) Interlocked Relay, Normally Picked up, Break Contact i.e Back Contact.

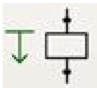
8.  Symbol Indicatesé é é é

a**)** Track Relay

b) Panel Key IN Contact

c) Point Contactor Relay

.d) Interlocked Relay, Normally Picked up, Break Contact i.e Back Contact.

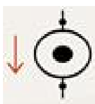
9.  Symbol Indicatesé é é é é

a**)** Track Relay

b) Panel Key IN Contact

c) Interlocked Relay Reverse Coil (Top Relay).

d) Interlocked Relay, Normally Picked up, Break Contact i.e Back Contact.

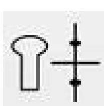
10.  Symbol Indicatesé é é é é

a**)** Track Relay

b) Panel Key IN Contact

c) Interlocked Relay Reverse Coil (Top Relay).

d) Point Contactor Relay

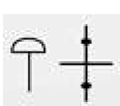
11.  Symbol Indicatesé é é é é

a**)** Track Relay

b) Panel Key IN Contact

c) Panel Key IN Contact

d) Point Contactor Relay

12.  Symbol Indicatesé é é é é

a**)** Track Relay

b) Push Button Pressed Contact

c) Panel Key IN Contact

d) Point Contactor Relay

13. WNR indicates

a) Point Button Relay

b) Point group Initiation Relay (with route setting)

c) Point Locking Relay

d) Point Operation Circuit Switching Relay.

14. W(R/)R Indicates ....

a) Point Operation Circuit Switching Relay

b) Point Detection Circuit Switching Relay

c) Point Normal operation control Lock Relay

d) Point Contactor Relay

15. WKR_1

a) Point final detection Relay.

b) Prove Point and Points group out of correspondence and cross protection arrangement.

c) Point group Initiation Relay (with route setting)

d) Point Operation Circuit Switching Relay.

15. Z1UR1

a) Diversion Selection Initiating Relay

b) Zonal Route Permissibility Checking Relay

c) Main Signal control Initiating Relay.

d) Route section Initiating Relay (Common for a Sub route)

17. MN-GZRé é ..

a) Main Signal control Initiating Relay

b) Zonal Route Permissibility Checking Relay

c) Route section Initiating Relay (Common for a Sub route)

d) Shunt Signal control Initiating Relay.

18. SH-GZR é é ..

a) Shunt Signal control Initiating Relay.

b) Zonal Route Permissibility Checking Relay

c) Route section Initiating Relay (Common for a Sub route)

d) Point group Initiation Relay (with route setting)

19. UDKRé

a) Sub-Route Clear Indication Relay

b) Sub-Route Clear Indication Relay

c) Calling ON Signal Route Locking Relay-1

d) Shunt Signal control Initiating Relay.

20. GLSR é é .

a) Signal Lock Stick Relay.

b) Signal Lamp Failure Alarm Timer Relay.

c) Attention Aspect Checking Relay.

d) CO. Signal Lamp Checking Relay.

21. G(R/N)LR é é

a) Signal Locking / Unlocking relay

b) Signal Lamp Failure Alarm Timer Relay.

c) Overlap Setting / Releasing Relay.

d) (Reverse/Normal) Direction Setting Relay.

22. $OVZ_2U(R/N)R$ é é

a) (Reverse/Normal) Direction Setting Relay.

b) Overlap Setting / Releasing Relay.

c) Sub-Route Locking/Releasing Relay.

d) Overlap Release Button Relay.

23. NCR é é

a) Common Checking Relay for Button checking .

b) Emergency Button Relay to replace Signal at ôONô

c) Emergency Route Release Button Relay.

d) Relay Proving EUUYN operation with Route Initiation.

24. OYNR é é

a) Overlap Release Button Relay.

b) Overlap Release Time Setting Relay.

c) Overlap Setting / Releasing Relay.

d) Emergency Route Release Button Relay.

25. EUYR é ..é

a) Emergency Route section Release Relay.

b) Emergency Route Release Button Relay.

c) Emergency Button Relay to replace Signal at ôONô

d) Overlap Release Time Setting Relay.

26. WXJR é ..é

a) Point detection Failure Alarm Timer Relay

b) Signal lamp Failure Alarm Release Button Relay.

c) Point detection Failure Alarm Release Button Relay.

d) Common Slot Release Button Relay.

Objective Questions

Chapter 2 : Table of Control

1. Inputs for the preparation of Table of Controls are taken from é é é
   a) **Route Section Plans**.
   b) Signaling Plan.
   c) Engineering Plan
   d) Signaling Plan Only.
2. Control Table is a tabular representation of a é é .é
   a) Signaling Yards
   b) Timer Groups.
   c) Crank Handle Groups.
   d) It represents only Timer Groups.
3. Inputs for the design of circuits are taken from
   a) Route Section Plans.
   b) Signaling Plan.

c) Table of Controls.

d) Signaling Plan Only

4. Panel Testing is carried out with the help of

a) Route Section Plans.

b) Signaling Plan.

c) Table of Controls.

d) Signaling Plan Only

5. In the format of Table of Controls Signal Routes are defined as

a) Each Signal route is defined separately.

b) Each Signal Route is defined separately with respect to Exit/destination.

c) Each Signal Route is defined separately with respect to Overlap.

d) Each Signal Route is defined separately with respect to Exit/destination and with different Overlaps

6. In Table of Control; Route Sections Set, indicatesé ..

a) Route Sections conflicting to the required set route section are Not Set.

b) Route Sections conflicting to the required set route section are Set.

c) Route Sections to be set for the required movement.

d) Overlaps conflicting to be set are written.

7. In Table of Control; Route Sections eliminated indicatesé ..

a) Route Sections conflicting to the required set route section are Not Set.

b) Route Sections conflicting to the required set route section are Set.

c) Route Sections to be set for the required movement.

d) Overlaps conflicting to be set are written.

8. In Table of Control; Route Sections Set, indicates é é ..

a) refers to overlap sections required to be set for the given. Signal route.

b) Overlaps conflicting to be set are written.

c) Route Sections conflicting to the required set route section are Set.

d) Route Sections to be set for the required movement.

9. In Table of Control; Signal to Danger Track Circuits indicatesé ..

a) to the first track circuit in advance of a signal.

b) to the first track circuit in advance of a signal and occupation of which will replace the concerned signal to ON aspect

c) Approach Track Circuit.

d) Back lock Track Circuits.

10. Approach Locking Track circuit for Main Line Starter Signal é é
    a) Dead Approach locking.
    b) From the berthing track to first control track circuit of the Home signal.
    c) From the berthing track to first control track circuit of the Home signal, if Points are set to Main Line.
    d) Not required for main line starter.

11. Approach Locking Track circuit for Loop Line Starter Signalé
    a) **Berthing Track**.
    b) Not required for loop line starter.
    c) From the berthing track to first control track circuit of the Home signal.
    d) Dead Approach locking

12. Aspect of Signal ahead to be proved generally this input is taken from é é é
    a) From selection table.
    b) Route Section Plan.
    c) Aspect Control Chart from Signaling plan.
    d) Not required.

13. Locked by Crank Handle group caters to the information about
    a) Crank Handle groups to be locked for the points.
    b) Shunt Signal to be locked.
    c) Main Signal to be locked
    d) C-On signal to be locked.

Chapter 3 : Button Relays and Button Checking Relays

1. GNR relay is provided in the respective
    a) Signal Group
    b) Universal Route Group
    c) Point group.
    d) Only in Universal Route Group

2. A common relay GNCR is picked up proving all
    a) Signal buttons are Normal(GNR)
    b) GNRs are Normal ,but GNPRs are pickup.
    c) All EGNRs are Normal.
    d) GN is pressed and its repeater GNPR has energised.

3. In GNR Circuit, EGNR back contact is proved to ensure that
    a) One operation (clearance or cancellation) is possible at a time.
    b) Because both are inside the same group.

c) EGNR is Normally Pickup relay

d) GNR is normally down.

4. GNR and EGNR relays in the Signal group pick up even though SM key of the panel is taken out.

   a) To put back an OFF Signal to ON in an Emergency.

   b) For full route cancellation.

   c) Route can be altered in Emergency.

   d) To Initiate C-ON, when track Circuit is failed.

5. GNCR Relay is Normally Pick up when..

   a) When All GNRs are dropped.

   b) When all GNRs and GNPRs are dropped.

   c) Whenever any Button on the Panel is pressed condition

   d) Only GNPRs are dropped.

6. When any UN Button is press UNR picks up..

   a) Inside the Route Group.

   b) Inside the Signal group.

   c) Provided Separately in K-50 Mini Group.

   d) Inside the Point group.

7. WNCR remains in the energised condition through the back contacts of all the

   a) WNR

   b) UNR

   c) GNR

   d) WLR

8. NNCR is

   a) All Signal Button Checking relay.

   b) All Route Button Checking relay.

   c) All Point Button Checking relay.

   d) All Panel Control(Button) Normal Checking relay.

9. Is a Slow to release Relayé .

   a) GNCR

   b) UNCR

   c) NNCR

   d) WNCR

10. In NNCR Circuit

    a) GNCR,UNCR and WNCR drop are proved.

    b) Only GNCR and UNCR pickup is proved.

    c) All GNCR,UNCR and WNCR pickup is proved.

d) GNCR and UNCR is not required.

11. In NNCR Circuit, back contact of ZDUCR indicates
    a) ZDUCR is drop, for next operation.
    b) Used to bypass Initiation Circuit.
    c) For next operation it is not required.
    d) Not required.

Chapter 4 : Signal Operation

1. Signal clearance takes place in é é .
    a) Two Stages
    b) One Stage.
    c) Three Stage
    d) Directly.

2. First Stage of Signal Clearance is
    a) Route and Signal Initiation.
    b) Route Setting, Checking and Locking.
    c) Signal Clearance.
    d) Point Operation.

3. Relay ensures Route and Signal Initiation.

a) Mn GZR

b) DUCR

c) ZDUCR

d) UDKR

4. During Route and Signal initiation of main Signal it is checked..

a) Route to be set is free from all conflicting movements.

b) Route may be free but Overlap not required.

c) Only overlap portion is checked

d) Only points in the overlap are checked.

5. MN ï GNPR

a) Common relay to repeat the operation of any Main Signal Button relay.

b) Common relay to repeat the operation of Starter Signal Button relay.

c) Used for the initiation of C-ON.

d) Common relay to repeat the operation of any Main Signal Button relay.

6. MN ï GNPR

a) Used for the bifurcation Mn Signal and Sh signal initiation.

b) Used for the initiation of C-ON.

c) Used for the initiation of Sh-Signal.

d) Provided to interlock the Signals in opposite direction on a road.

7. SH ï GNPR

a) Used for the bifurcation Mn Signal and Sh Signal Initiation.

b) Common relay to repeat the operation of Starter Signal Button relay.

c) Used for the initiation of C-ON.

d) Common relay to repeat the operation of any Main Signal Button relay.

8. SH-G(R)R

a) Shunt Signal selection relay

b) Main & C.O. Signal selection relay

c) Initiates Main /CO Signal and Route when Normal.

d) Direction determining relay.

9. SH G(R)R

a) Shunt Signal selection relay.

b) Main & C.O. Signal selection relay.

c) Direction determining relay.

d) Initiates Shunt Signal and Route when Reversed.

10. ZU(R)R

a) Direction determining relay.(Left to Right)

b) Direction determining relay.(Right to Left).

c) Used for the initiation of C-ON.

d) Used for the initiation of Sh-Signal only.

11. ZU(N)R

a) Direction determining relay.(Left to Right)

b) Direction determining relay.(Right to Left).

c) Used for the initiation of Sh-Signal only.

d) Used for the initiation of Sh-Signal only.

12. G(R)LR

a) Provided to interlock the Signals in opposite direction.

b) Signal Locking Relay

c) Common relay to repeat the operation of any Main Signal Button relay

d) Direction determining relay.(Right to Left)

13. KL(R)R

a) Point Key Lock Release Relay

b) Point Key Lock Normal relay

c) Relay checking the condition of Key Lock at site and its Slot in the cabin.

d) Direction determining relay.(Right to Left).

14. $COULR_2$

a) Common Calling ON Signal Button relay.

b) Calling ON Signal Control relay-2

c) Emergency Route Release relay.

d) Used for the initiation of Sh-Signal.

15. Z_1UR

a) **Sub Route initiating relay (common for all Route sections in a sub route**.

b) Sub Route initiating relay common for entire zone.

c) Diversion Selection Relay.

d) Signal Initiation Relay.

16. EUYNR

a) **Emergency Route Section Release Button relay.**

b) Repeats Button operation in circuit.

c) Common relay to repeat the operation of any Main Signal Button relay.

d) Common relay to repeat the operation of any Shunt Signal Button relay

17. STN EUYR

a) **Emergency Route release relay.**

b) Repeater of the EUYNR.

c) Repeater of the EUUYNCR

d) Proved in CO-ON off aspect control circuit.

18. OVZ2U(R)R

a) Overlap Release relay

b) Overlap Setting Relay.

c) Signal Locking Relay.

d) Sub Route Locking Relay.

19. MN-GZR

a) Shunt Signal Initiating relay (Common for all signals in a yard).

b) Main Signal Initiating Relay (Common for all signals in a yard).

c) Initiates the Shunt Signal to be cleared.

d) Ensures availability of all required conditions for setting a Sh-Signal route.

20. SH-GZR

a) Ensures availability of all required conditions for setting a Main Signal route.

b) Initiates the Main Signal to be cleared.

c) Shunt Signal Initiating relay (Common for all signals in a yard).

d) Main Signal Initiating Relay (Common for all signals in a yard).

21. ZDUCR

a) Main Signal Initiating Relay

b) Shunt Signal Initiating relay.

c) Route Permissibility checking relay Common for all Signal routes in a yard.

d) Relay checking the condition of Key Lock at site and its Slot in the cabin.

22. SH G(R)R Ensures that

a) All the Route Sections and Overlap falling in the Shunt Signal Route is Normal.

b) Ensures availability of all required conditions for setting a Main Signal route.

c) Initiates the Main Signal to be cleared.

d) Main Signal Initiating Relay

23. Z1UR Picks up duringé .

a) Route Initiation. for Signal Clearance only

b) During full Route Cancellation only.

c) Picks Up in both i.e. Route Initiation and Full Route Cancellation.

d) Not required in Full Route Cancellation

24. Whenever Main signals are to be cleared, ZDUCR relay operates only after the

a) Energisation of Mn GZR.

b) Energisation of U(R)S.

c) Energisation of OVZ2U(R)R.

d) Energisation of GLSR.

25. In case of C-ON Signal Initiation ZDUCR operates only after the

a) Energisation of Mn GZR.

b) Energisation of SH GZR.

c) Without Mn GZR & Sh GZR.

d) Energisation of GLSR.

26. Pickup of OVZ2U(R) R ensures..

a) Route is initiated ZDUCR is pickup.

b) Only Mn GZR is pickup

c) Both Mn GZR and ZDUCR is pickup.

d) Mn GZR not required.

27. Pickup of OVZ2U(R) proves that

a) Conflicting overlaps are Normal and not set

b) Conflicting Route Sections are set.

c) Conflicting overlaps are Normal and not set but Route Section may set.

d) Points in the overlap are not set and detected to the required position correctly.

28. UDKR

a) Common Relays for Sub Route.

b) In Sub Route each route Section has its own UDKR.

c) It works for Left to Right movements.

d) It works for Right to Left movements.

29. UDKR is an é

a) Normally pickup relay.

b) Normally drop relay.

c) Pickup with Route Section setting if TPR is dropped.

d) Is an Interlocked Relay

30. UDKR is an normally drop relay and picks up only whené

a) Concerned U(R)S and TPR is pickup.

b) Pickup with Route Section setting if TPR is dropped.

c) When the Route section is set only.

d) When the TPR is pickup only.

31. To pickup DUCR following sequence is requiredé

a) U(R)S,TPR & NWKR/RWKR is pickup.

b) Only NWKR/RWKR is pickup.

c) Only U(R)S& TPR is pickup.

d) Point detection is not required.

32. GLSR is made Slow to release é ..

a) To pickup G(R) LR.

b) To pickup GR1

c) To pickup G(N)LR.

d) To pickup GR2.

33. In GLSR is pickup main path ..

a) GN & UN Buttons are required to be kept pressed.

b) Can be released after ZDUCR is up.

c) GN and UN Buttons are not required.

d) GN and UN Buttons are not required as Route Section is already set.

34. When GN & UN buttons are released GLSR,Holds throughé ..

a) U(R)S front contact only.

b) U(R)S front contact and Own front Contact.

c) GR1 front contact.

d) G(R)LR front contact..

35. GLSR Slow to release features start, whené .

a) GPR1 picks up & cut the holding feed.

b) When GN & UN Buttons are released and cut the feed.

c) When GR2 picks up.

d) When G(R)LR is pickup.

36. EGNR back contact is proved in GLSR circuité .

a) To cut the feed of GLSR, for full route cancellation.

b) To cut the feed of GR1,before its picksup.

c) To cut the feed of G(R)LR .

d) Not required.

37. Feed to GR1 is taken fromé .

a) Signal in advance, for Red lamp protection.

b) From the Signal group its self.

c) From GLSR supply feed.

d) From Lamp circuit of controlling Signal.

38. GR1 is made slow to releaseé

a) It prevents signal going to danger ,when G(R)LR picks up.

b) It prevents signal going to danger when GLSR is drop.

c) **It prevents signal going to danger when track circuits flickered.**

d) It prevents un authorized operation.

39. Stick path in GR1 is provided

a) It prevents unintentional operation when GNR buttons is pressed.

b) Because GLSR is going to drop.

c) Both the option "a "&" b."

d) Only option ñaò

40. In case of GR1 Circuit

a) GLSR front contact is proved.

b) GLSR back contact is proved.

c) G(R)LR front contact is proved.

d) G(R)LR back contact is proved.

41. In case of GR2 Circuit

a) GLSR front contact is proved.

b) GLSR back contact is proved.

c) G(R)LR front contact is proved.

d) G(R)LR back contact is proved

42. Purpose of making two Signal controlling relays GR1 & GR2 is

a) To ensure double safety.

b) To check the working of GLSR, as One train One signal.

c) Back contact is proved because of Metal to Metal Contact.

d) Because it is a final stage of Signal Clearance.

43. Feed to GR2 is taken fromé .

a) From the Signal group its self.

b) From GLSR Circuits.

c) Same feed of GR1 Circuits.

d) From G(R)LR Circuit.

44. Feed to GR2 is extended only after

a) G(R)LR is dropped,

b) G(R)LR picks up and G(N)LR drops,

c) Both G(R)LR & G(N)LR drops.

d) U(R)S

45. SH-GLSR is normallyé é

a) Drop Relay.

b) Pickup Relay.

c) Normally drop but picks up when Route Sections are set.

d) Normally drop but picks up when Overlaps are set.

46. SH-GLSR is normally kept energised proving that:

a) The concerned Route sections are normalized after previous operation.

b) The concerned Route sections are set.

c) The concerned Overlaps are set.

d) Main signal has initiated.

47. $COULR_1$ ensures thaté ..

a) Main Signal is not taken OFF & C-ON controlling track is down.

b) Only Main Signal is not taken OFF.

c) Only C-ON controlling track is down.

d) Main Signal is taken OFF.

48. In the regular process, a Main Signal Overlap gets release

a) Only after two minutes on train occupying berthing track Partially.

b) Only after two minutes on train occupying berthing track.

c) Releases immediately without any time delay.

d) Time delay is must as train has not occupied berthing track

49. Emergency overlap release with the help of OYN button. Only when

a) Only after two minutes on train occupying berthing track partially.

b) Only after two minutes on train occupying berthing track.

c) Releases immediately without any time delay.

d) Releases immediately without any time delay, with the release of last Route Section.

50. Normalisation of G(N)LR ensuresé

a) Last Route Section is released.

b) Overlap is Normal i.e. OVZU(N)R.

c) Train is on berthing track.

d) Both “b” & “c”

Chapter 5 : Automatic Route Release

1. UDKRé ..
    a) Route clear indicating relay common for a Sub Route.
    b) Route clear indicating relay separate for each route section.
    c) Route clear indicating relay normally pickup.
    d) Route clear indicating relay normally pickup.

2. ZR Track Circuit Power Supply Checking relay.
    a) Use to ensure that TPRs drop only with train movement.
    b) It is an Normally drop relay.
    c) It is an Normally drop relay and Picks up with train movements.
    d) Picks up with train movements.

3. U(N)LR Sub Route normalizing relay
   a) Normalised to release locking on a set Route Section.
   b) Normalised to make Points and Slots in the Route Section free.
   c) Normalised to release locking on Signals conflicting, with the cleared Main Signal.
   d) Proves necessary conditions for Overlap release before setting time.

4. U(N)S Route Section normalizing relay
   a) Normalised to release locking on a set Route Section.
   b) Normalised to make Points and Slots in the Route Section free.
   c) Normalised to release locking on Signals conflicting, with the cleared Main Signal.
   d) Proves necessary conditions for Overlap release before setting time.

5. G(N)LR Signal Unlocking Relay
   a) Normalised to release locking on a set Route Section.
   b) Normalised to make Points and Slots in the Route Section free.
   c) Normalised to release locking on Signals conflicting, with the cleared Main Signal.
   d) Proves necessary conditions for Overlap release before setting time.

6. OVAJTR-2 Overlap Release Time Control relay no.2
   a) Proves necessary conditions for Overlap release before setting time.
   b) Provides for time lapse before an Overlap is released.
   c) Proves time lapse for releasing overlap.
   d) Releases Overlap either after 2 min. on train stopping at the Signal in advance or soon after the train run through.

7. OV AJTR Overlap Release Time Setting relay.
   a) Provides for time lapse before an Overlap is released.
   b) Overlap Release Time Setting relay.
   e) Normalised to make Points and Slots in the Route Section free.
   f) Normalised to release locking on Signals conflicting, with the cleared Main Signal.

8. OV-AJTR$_3$ Overlap Release Time control relay No.3
   a) Proves time lapse for releasing overlap.
   b) Normalised to make Points and Slots in the Route Section free.
   c) G(N)LR Signal Unlocking Relay
   d) Normalised to release locking on a set Route Section.

9. In the route release processes UDKR drops only
   a) When the Sub Route Tracks picks up.
   b) When the Sub Route is unlocked only.
   c) When the Sub Route is Unlocked, U(N)S up and track circuit is also pickup.
   d) Only U(N)S is up.

10. In case of a train running through on a set Route ahead, the Overlap gets released
    a) Without any time delay.
    b) without time delay, as soon as the last Route section of signal route is released,
    c) Time delay is ensured by OV AJTR.
    d) Only after pickup of AJTR2 and AJTR3.

11. G(N)LR gets picks up Only ,when
    a) when the set Routes and Overlap are normalized.
    b) Set Routes are normalized.
    c) Only Overlaps are normalized.
    d) When ZDUCR drops.

Chapter 6 : Emergency Operations

1. EGGNRé ..
    a) Emergency Signal Replacement Button relay
    b) Emergency Signal Replacement control relay
    c) Signal Button Relay
    d) Common relay to prove the operation of any MN-GNR.

2. EUUYNR
    a) Emergency Route Release Button Relay (common for the station yard.)
    b) Relay proving Route Initiation during Emergency Route Release.

c) Common relay to prove the operation of any MN-GNR.

d) Signal Button Relay

3. STN-EUUYR

a) Emergency Route Release Relay (common for station yard)

b) Emergency Route Release relay (common for a station yard).

c) Signal Button Relay

d) Common relay to prove the operation of any MN-GNR.

4. For Manual Route Release operationé

a) first GN and EGGN are pressed together and released.

b) First GN and EUUYN are pressed

c) Directly pressed EUUYN Button.

d) EUUYN buttons is not required manual route release.

5. In full route cancellation GN Button is

a) required to kept pressed till UN Buttons is pressed.

b) May be release before EUUYN Button.

c) EUUYN buttons is not required manual route release.

d) UN buttons is not required manual route release.

6. In full Route cancellation, pressing of GN and UN button causeé .

a) Route Initiation.

b) Only Route Sections get initiated to operate EUUYNCR.

c) Route is initiated and ZDUCR picks up.

d) Signal goes to danger.

7. In emergency Sub Route cancellation

a) EUYR directly operates to release the Route section and normalize.

b) EUUYR directly operates to release the Route section and normalize

c) OYN directly operates to release the Route section and normalize.

d) EUUYNCR directly operates to release the Route section and normalize

8. For Emergency Sub Route release controls to be pressed.

a) WN and EUYN are operated together and released.

b) WN and EUYN are operated together and released.

c) GN and EGN are operated together and released.

d) WN and EUUYN are operated together and released.

9. Emergency Sub Route release can also be performed ,when

a) Even if, Point zone track is failed.

b) Only when, point zone track is up.

c) Only after delay of 2 minutes.

d) After the release of Overlap

10 The Only Emergency cancellation which requires Signal Engineers authorizationé

a) **Sub Route Cancellation**.

b) Emergency full route cancellation.

c) Emergency point operation

d) Emergency Overlap release.

Chapter 7 : Panel and Relay Group Indication Circuits

1. Normally failed conditions for Point is

a) Indicated with flashing.

b) Indicated with Steady Indication.

c) Indicated with Steady red Indication.

d) Indicated with Steady Yellow Indication.

2. Number of Indications provided over Major point groups are

a) One

b) Two

c) Three.

d) Four.

3. Indication on major point group, When point is set, locked and detectedé .

a) 1st HKE Steady Indication.

b) 1st HKE Flashing Indication.

c) RKE steady Indication

d) All three indications are flashing.

4. Indication on major point group, during point operation or point is failed

a) 1st HKE Steady Indication.

b) 1st HKE Flashing Indication.

c) RKE steady Indication

d) All three indications are flashing.

5. Indication on major point group when Point zone track circuit is failed

a) RKE steady Indication.

b) RKE flashing Indication

c) All three indications are flashing

d) 1st HKE Flashing Indication.

6. Number of Indications provided on three aspect signal groups are

a) One

b) Two

c) Three.

d) Four.

7. Indication on 3 Aspect Signal group,When Signal is Showing Red Aspect..

a) RKE Steady.

b) RKE is Flashing.

c) DKE is flashing.

d) DKE is Steady.

8. Indication on 3 Aspect Signal group, When Signal is supposed to show ON aspect and ON aspect is failed

a) RKE is flashing.

b) DKE is flashing.

c) DKE is Steady.

d) RKE Steady.

9. Indication on 3 Aspect Signal group, When Signal is showing Yellow aspect

a) RKE is flashing.

b) DKE is flashing.

c) RKE Steady.
d) DKE is Steady.

10. Indication on 3 Aspect Signal group, When Signal is showing Green aspect

a) RKE is flashing
b) DKE is flashing.
c) DKE is Steady.
d) RKE Steady.

11. Number of indications provided on Point Minor Group

a) One
b) Two
c) Three
d) Four

12. Indication on major point group, during point operation or point is failed

a) RKE flashing
b) RKE steady
c) No Indication
d) Blank

13. Indication on major point group, when point is set,locked and detected

a) RKE steady
b) No Indication
c) Blank
d) RKE flashing.

14. Number of indication provided on Route Group.

a) One
b) Two
c) Three
d) Four

15. Normal indication on Route Group when it is not engaged in any movement

a) RKE Steady.
b) No Indication
c) RKE is flashing.
d) HKE is Steady.

16. Indication on Route Group when, it is set with any route sectioné ..

a) RKE Steady.
b) HKE is Steady.
c) No Indication

d) Both RKE and HKE steady.

17. Indication on Route Group when, it is set with any route section
   a) RKE Steady.
   b) HKE is Steady.
   c) No Indication
   d) Both RKE and HKE steady.

Chapter 8 : Slot Control

1. CH- YNRé .
   a) Crank Handle Release Button.
   b) Common Slot Release Button Relay.
   c) Common Slot Return ack. Button Relay.
   d) Crank Handle key locked óNôProving relay

2. YYNR
   a) Crank Handle Release Button.

b) Common Slot Release Button Relay.

c) Common Slot Return ack. Button Relay.

d) Crank Handle key locked ớNôProving relay.

3. YRNR

a) Crank Handle Release Button.

b) Common Slot Release Button Relay.

c) Common Slot Return ack. Button Relay.

d) Crank Handle key locked ớNôProving relay.

4. CH1KLCR

a) Crank Handle key locked 'IN' Proving relay

b) Crank handle Slot Release relay

c) Crank handle Slot Normal Relay

d) Crank Handle Key Lock Relays

5. CH-KLR

a) Crank Handle Key Lock Relays

b) Common Slot Return ack. Button Relay.

c) Crank handle Slot Normal Relay

d) Common Slot Return ack. Button Relay.

6. CH ï Y(R)R

a) **Crank handle Slot Release relay**.

b) Crank Handle Key Lock Relays.

c) Crank handle Slot Normal Relay

d) Crank Handle key locked ớNôProving relay

7. KLR at site is an é .

a) Normally Pick-up Relay.

b) Normally drop Relay.

c) It gets drop immediately as Slot is transmitted.

d) It gets drop, when route is initiated.

8. LXNR

a) Level Crossing control Button Relay

b) Common Slot Control Button Relay

c) Common Slot Return ack. Button Relay

d) Level Crossing Slot key in Proving relays

9. YYNR

a) Common Slot Control Button Relay

b) Level Crossing control Button Relay

c) Common Slot Return ack. Button Relay

d) Level Crossing Slot key in Proving relays

10. YRNR

a) Common Slot Return ack. Button Relay

b) Level Crossing control Button Relay

c) Level Crossing Slot key in Proving relays

d) Common Slot Control Button Relay

11. LXCPRS

a) Level Crossing Slot key in Proving relays

b) Level Crossing control Button Relay

c) Common Slot Control Button Relay

d) Common Slot Return ack. Button Relay

12. LXPR

a) Level Crossing Key Lock Relay

b) Level Crossing control Release relay

c) Level crossing control Normal relay

d) Level Crossing Slot key in Proving relays

13. LX(R)R

a) Level Crossing control Release relay

b) Level crossing control Normal relay

c) Level Crossing Key Lock Relay

d) Level Crossing Slot key in Proving relays

14. LX(N)R

a) Level crossing control Normal relay

b) Level Crossing control Release relay

c) Level Crossing Key Lock Relay

d) Level Crossing Slot key in Proving relays

Chapter 9 : Point Operation

1. $Z_1WR_1(1)$

a) Pick up coil of Point control Initiating Relay-1 (common for 'N'& 'R' operations)

b) Holding coil

c) Pickup coil of Point Detection Relay-3.

d) Point operation Time limiting Relay.

2. In the first stage which is common for normal and reverse initiations
   a) Z1WR1 picks up.
   b) Z1NWR picks up.
   c) Z1RWR picks up.
   d) Z2WR1 picks up.

3. This operation is called as normal point operationé é
   a) When concern point button WN and common point button WWN simultaneously.
   b) When concern point button WN and common point button EWN simultaneously.
   c) When concern point button WN and common point button EUUYN simultaneously.
   d) When concern point button WN and common point button YYN simultaneously.

4. When the point zone track circuit is in failed condition, the point operation can be initiated by the operation of
   a) When concern point button WN and Emergency point button EWN.
   b) When concern point button WN and common point button WWN simultaneously.
   c) When concern point button WN and common point button EUUYN simultaneously.
   d) When concern point button WN and common point button YYN simultaneously.

5. Which Relay operates first in the group, when point is operated fro Normal to Reverse
   a) WKR1
   b) Z1RWR.
   c) Z1WR1(1)
   d) Z1WR1(2)

6. Which Relay operates first in the group, when point is operated from Reverse to Normal
   a) WKR1
   b) Z1RWR.
   c) Z1WR1(1)
   d) Z1WR1(2)

7. Which relay operates to break the detection of point from Normal to Reverse operation..
   a) WKR1
   b) WKR2
   c) WKR3
   d) WLR

8. Which relay operates to break the detection of point from Reverse to Normal operation
   a) WKR1
   b) WJR
   c) WKR3
   d) WR

9. When the point is Normal relays pick up in the group areé

a) WKR1,(N)WLR,and W(N)R.

b) WKR3,(N)WLR,and W(N)R.

c) WKR2,(N)WLR,and W(N)R

d) WKR1,(N)WLR,and W(R)R.

10. When the point is Reverse relays pick up in the group areé

a) WKR1, (R)WLR and W(N)R.

b) WKR3, (N)WLR and W(N)R.

c) WKR2, (N)WLR and W(N)R

d) WKR1, (N)WLR and W(R)R.

11. When point is operated from Normal to Reverse, which relay operates twiceé

a) WKR1

b) WKR2

c) WKR3

d) Z1WR.

12. Relay indicates the end of point operationé .

a) WKR1

b) WKR2

c) WKR3

d) Z1WR.

13. In point group ,which relay is picks up with 60V and 110 V DC

a) WKR1

b) WKR2

c) WKR3

d) WJR

14. Coil of -------- relay is provided in series of WKR1 circuit.

a) WKR1

b) WKR2

c) WKR3

d) WJR

15. Relays used to switch over the point from detection mode to operation mode.

a) W(R)R.

b) W(N)R

c) W(N)LR

d) W(R)LR

16. Z1WR1 is an

a) Double Coil Relays.

b) Neutral Relay.

c) Interlocked Relay.

d) Checking Relay.

17. Purpose of use of double coil relays in point operation circuit is

a) To keep the condition live at all time.

b) It remains in the last operated position.

c) To keep the condition live when the first condition is cut off.

d) It is an slow to pickup relay.

18. Relay prove out of correspondence, when Point at site is Normal and group inside the cabin is Reverse.

a) WKR1

b) WKR2

c) WKR3

d) RWKR.

19. Though the Coil of WKR2 is in series with WKR1,but WKR2 will not pickup asé

a) As current required to operate WKR2 is not sufficient in detection mode.

b) Because both are interlocked relays.

c) WKR2 May be picksup ,but drops immediately

d) Because WKR2 is normally drop relay.

20. During Normal to Reverse operation, when point group changes its position from (N)WLR to (R)WLR relays picks up for change in correspondenceé .

a) RWKR.

b) WKR1

c) WKR3

d) WKR2

21. Point Operations buttons contacts are proved in the of _________relay

a) Both in Z1NWR & Z1RWR.

b) Only in Z1RWR.

c) Only in Z1RWR.

d) WKR2

22. Relay affords overload protection to Point motor by cutting off operation feed when point fails to operate in time.

a) WKR2

b) WKR3

c) WJR

d) WR

23. Relay used for switching heavy starting current of Point motor through its front contacts.
    a) WKR2
    b) WR
    c) WJR
    d) WKR3

24. Resistance provided in series of WKR3 coil is toé .
    a) Protect the coil ,when it is pickup by 110 VDC
    b) To drop the relay.
    c) To avoid interference from another circuit.
    d) To cut the feed.

Objective Questions

Chapter 1 : Introduction

1. Route setting type Relay Interlocking (Route Relay Interlocking) system is adopted for
   a) Major Yard
   b) Way Side Station.
   c) As per new circular for any new installation Route Setting type.
   d) Only for Major Yard.

2. The only difference of Siemens Route Relay Interlocking with respect to Siemens Panel Interlocking is that
   a) It has the additional facility to set the points on the route.
   b) It has the additional facility to set the points on the route and, overlap.
   c) it has the additional facility to set the points on the route, overlap and in isolation automatically.
   d) It has the additional facility to set the points in the isolation only.

3. Point Group used in case of Route setting type Relay Interlocking
   a) Minor Group.
   b) Major Group
   c) Mini Group.
   d) Point Chain Group.

4. In case of Route setting type Relay Interlocking additional Group used for sequential point operation along with Point Major Group.....
   a) Minor Group.
   b) Mini Group.
   c) Point Chain Group.
   d) Timer Group.

5. In case of Route setting type Relay Interlocking for the clearance of signal.....
   a) Points are required to be operates individually.
   b) Only points in the isolation are required to operate.
   c) Points in the Route, Overlap and in isolation operate automatically, with the pressing of GN and UN Buttons.
   d) Points in the overlaps are required to operate only.

6. Auto operation of Point in the Route takes place with the pickup of relays as é é ...
   a) OVZ2U(R)R
   b) U(R) S.

c) UZ4(R) R.
d) WN and WWN.

7. Auto operation of Point in the Overlap takes place with the pickup of relays as é é ...
   a) OVZ2U(R)R
   b) UZ4(R) R.
   c) WN and WWN.
   d) U(R) S.

8. Auto operation of Point in the Isolation takes place with the pickup of relays as é .....
   a) UZ4(R) R
   b) U(R) S.
   c) OVZ2U(R)R
   d) WN and WWN.

9. In case of Route setting type Relay Interlocking
   a) NWKR & RWKR are normally pickup.
   b) NWKR & RWKR are normally dropped
   c) NWKR is only pickup.
   d) RWKR is only pickup.

10. NWKR / RWKR are normally de-energized, picks up only.
    a) When route setting is done.
    b) Overlap is set.
    c) If the point set in route then with U(R)S if in Overlap then with OVZ2U(R)R.
    d) When the Route sections are set then only.

Chapter 2 : sequence of Operations

1. Z1UR1 is é é ....
   a) Sub Route Initiating Relay.
   b) Diversion Selection Relay.
   c) Route Section Initiation Relay.
   d) Isolation Point setting Relay.

2. Purpose of Z1UR1 in case of RRI is to check é ....
   a) The movement initiated for Main line or for diversion.
   b) The movement initiated for Main line.
   c) The movement initiated for diversion line.
   d) The movement over isolated portion.

3. Z1UR1 is normally é ....
   a) Pickup Relay.
   b) Drop Relay.
   c) Slow to pickup Relay
   d) Slow to release Relay.

4. Back Contact of Z1UR1 is used for....
   a) The movement initiated for diversion line.
   b) The movement over isolated portion.
   c) The movement initiated for Main line.
   d) The movement initiated for Main line or for diversion.

5. Front Contact of Z1UR1 is used for....
   a) The movement initiated for diversion line.
   b) The movement over isolated portion.
   c) The movement initiated for Main line**.**
   d) The movement initiated for Main line or for diversion.

6. Z1UR1 is always designated after the name of..
   a) Point Number.
   b) Route Section number.
   c) Sub Route number.
   d) Signal number.

7. Whenever any main signal GN and UN buttons are pressed, relays picks up to initiate Sub Routes are.....

a) Z1UR1

b) Z1UR.

c) Sh GZR

d) Sh GNPR

8. Z1UR1 Relays is pickup only for....

a) Main Signal movement.

b) Shunt Signal movement.

c) For Main as well as Shunt Signal movement.

d) Only for Shunt Signal movement.

9. When concern Z_1UR relay picks up, it switches on route group by picking up relevant.....

a) Sub Route.

b) Concerns U(R)S in the Sub Route.

c) Overlaps.

d) Isolation Point Setting Relays.

10. In case of auto operation of point, points in the route are operated with the pickup of...

a) U(R) S.

b) OVZ2U(R) R.

c) UZ4(R) R.

d) Z3WR.

11. In case of auto operation of point, points in the Overlap are operated with the pickup of...

a) UZ4(R) R.

b) Z3WR.

c) U(R) S.

d) OVZ2U(R) R.

12. In case of auto operation of point, Normal Point operation is imitated due to

a) A U(R)S

b) B U(R)S

c) OVZ2U(R)R

d) OV-2 Z2U(R) R.

13. Auto operation of point can be initiated only when.....

a) Point zone track circuit is pickup.

b) Even though the point zone track circuit is failed.

c) Point zone track circuit is not included.

d) Only proved in case of points in overlap.

14. Auto operation of point can be initiated only when.....

a) WKR2 is pickup.

b) WKR1 is pickup.

c) WKR3 is pickup.

d) UZ4(R)R

Chapter 3 : Siemens Major Point Group with Point Machines

1. In point major group first relay to pickup during Individual operation

   a) Z1WR.

   b) Z1WR1

   c) Z3WR.

   d) WWYR.

2. First relay to operate in the Point group, under route initiation to operate a point in the route, overlap or isolation.

   a) Z1WR.

   b) Z1WR1

   c) Z3WR.

   d) WWYR.

3. If a point is flashing during initiation of a route,

   a) Point Operation will not get initiate.

   b) Point Operation will get initiate.

   c) Point Operation will initiate, but WKR1 will not pickup.

   d) It will not get affects, as point zone track circuit is pickup.

4. Z1WR will pick up only whené ..

   a) Either U(R)S or OVZ2U(R) along with WKR1 is up.

   b) Either U(R)S or OVZ2U(R).

   c) It requires only WKR1 to pickup.

   d) Buttons Contacts WN & WWN is sufficient.

5. Z_1WR drops only after the point group is initiated and dropping of

   a) WKR1 .

   b) WKR2.

   c) WKR3

   d) WWR

6. WLR Relay is é é ....

   a) Point Locking Neutral Relay.

   b) Point Locking Interlock Relay.

   c) Point Locking Neutral K-50 B Type Relays.

   d) Point Locking Neutral K-50 E Type Relays.

7. WLR Relay checks that, point group is initiated due to
   a) Actual Route setting i.e. Z1UR and ZDUCR is pickup.
   b) U(R) S is pick up.
   c) Only U(R) S is sufficient to ensure route initiation.
   d) Only Z1WR is sufficient to ensure route initiation.
8. WLR Relay checksé ..
   a) Track Locking condition.
   b) Approach locking.
   c) Back locking
   d) Indication locking

9. WLR helps in sequential operation of points and pickup..
   a) Z3WR.
   b) WWR.
   c) WWYR.
   d) WNCR

10. WLR (2) relay will drops only when..
    a) WKR2 picks up and point is under operation mode.
    b) When point detection is removed WKR1 drops.
    c) After complete operation of point.
    d) When WWYR picks up.

11. WWR is named as
    a) Point Chain Group Relays.
    b) Point to Point Reverse Relay.
    c) Point Chain Group Initiating Relay.
    d) End of Point Chain command Relay.

12. Z3WR is named as é
    a) Point Chain Group Initiating Relay.
    b) Point to Point Reverse Relay.
    c) End of Point Chain command Relay.
    d) Isolation Point Setting Relay.

13. R1 -220 Ω, it is connected in series with the second coil of Z_1RWR
    a) It prevents the 60 V positive from being shorted to 60 V negative when (N) WLR_3 drops.
    b) It prevents the 60 V positive from being shorted to 60 V negative when (R)WLR_3 drops.
    c) Serves to isolate the condenser from the 60 V supply after WJR has picked up.
    d) It reduces the initial charging surge of the condenser and improves the time delay for WJR to drop.

14. R2 - 220 Ω, it is connected in series with the second coil of Z_1NWR

a) **It prevents the 60 V positive from being shorted to 60 V negative when (R)WLR_3 drops.**
b) It prevents the 60 V positive from being shorted to 60 V negative when (N) WLR_3 drops.
c) Serves to isolate the condenser from the 60 V supply after WJR has picked up.
d) It reduces the initial charging surge of the condenser and improves the time delay for WJR to drop.

15. R3 - 600 Ω, it is connected in parallel with WR back contact in the WR circuit.

a) **It reduces the holding current of WR relay .WR requires a higher pick up current.**
b) It prevents the 60 V positive from being shorted to 60 V negative when (N) WLR_3 drops.
c) Serves to isolate the condenser from the 60 V supply after WJR has picked up.
d) it prevents the 60 V positive from being shorted to 60 V negative when (R)WLR_3 drops

16. R4 - 18000 Ω, it is connected in series with the WJR condenser as it

a) **Serves to isolate the condenser from the 60 V supply after WJR has picked up.**
b) lt prevents the 60 V positive from being shorted to 60 V negative when (R)WLR_3 drops
c) It prevents the 60 V positive from being shorted to 60 V negative when (N) WLR_3 drops.
d) It reduces the holding current of WR relay .WR requires a higher pick up current

17. R5 - 39 Ω, it is connected in series with the WJR condenser as it é .

a) **It reduces the initial charging surge of the condenser and improves the time delay for WJR to drop.**
b) It reduces the initial charging surge of the condenser and improves the time delay for WJR to drop.
c) lt prevents the 60 V positive from being shorted to 60 V negative when (R)WLR_3 drops
d) It reduces the holding current of WR relay .WR requires a higher pick up current.

18. R6 ï 270 Ω, it is connected in series with the coil of WKR_2 relay. WKR_2 relay is connected in series with WKR_1 relay but it does not pick up as it requires a higher pick up current .So

a) **When the coil of WKR_1 is not in its circuit the WKR_2 relay picks up. Thus WKR_2 picking up is prevented by WKR_1 coil resistance and R6 in series.**
b) It reduces the holding current of WR relay .WR requires a higher pick up current.
c) It reduces the initial charging surge of the condenser and improves the time delay for WJR to drop.
d) It reduces the holding current of WR relay .WR requires a higher pick up current.

19. R7 - 1000 Ω, it is connected in series with the WKR_3 relay because it

a) **Drops the 110 V supply for the WKR3 relay to pick up which has a 60 V coil.**
b) It reduces the holding current of WR relay .WR requires a higher pick up current.
c) It reduces the holding current of WR relay .WR requires a higher pick up current.
d) Serves to isolate the condenser from the 60 V supply after WJR has picked up.

20. When a point falls in the route/overlap/isolation, Relay operates to lock the point group electrically.........

a) **W(R)LR picks up and locks the point group electrically.**

b) WLR picks up and locks the point group electrically.

c) U(R)LR picks up and locks the point group electrically.

d) G(R)LR picks up and locks the point group electrically.

21. In case of Normal to Reverse Operation which relay pickup twice.....

a) WKR2

b) WKR3

c) WKR1

d) Z3WR.

Chapter 4 : Siemens Point Chain Relay Group

1. WWR is named as
   - **a) Point Chain Group Relays.**
   - b) Point to Point Reverse Relay.
   - c) Point Chain Group Initiating Relay.
   - d) End of Point Chain command Relay.
2. Z3WR is named as é é é .é
   - **a) Point Chain Group Initiating Relay.**
   - b) Point to Point Reverse Relay.
   - c) End of Point Chain command Relay.
   - d) Isolation Point Setting Relay.
3. Z3WR is normally.
   - a) Pickup Relay.
   - **b) Normally drop relay.**
   - c) Slow to pickup relay.
   - d) End of Chain Operation Relay.
4. Condition to pickup Z3WR is é é é .é
   - **a) Z1WR and WLR are up.**
   - b) Only Z1WR is up.
   - c) Only WLR is up.
   - d) Z1WR and WLR is drop.
5. Z3WR is made Slow to release é é é .é .
   - **a) For smooth working of chain group.**
   - b) To prevent Z1WR and WLR to drop.
   - c) To prevent ZDUCR to drop.
   - e) To prevent WWYR to drop.
6. WWYR is a normally é é é .é
   - **a) Pickup relay.**
   - b) Drop relay.
   - c) Slow to pickup relay.
   - d) Slow to drop relay.
7. Main function of WWYR Relay is

a) **End of Chain Operation by dropping Z3WR.**
b) Helps in sequential operation of points.
c) To prevent Z1WR and WLR to drop.
d) It provides smooth working to Chain group.

8. Chain Groups always gives command for at least.
   a) Two Point for operation.
   b) Three Points for operation.
   c) Four Points for operation.
   d) One point for operation.

9. In a Chain Group commands for the operation of third points starts only é é é .é
   a) When the WLRs of first two point drops.
   b) When the WLRs of first point is drops.
   c) When the WLRs of second point is drops.
   d) WWYR is drop.

10. In case of RRI, points in the isolation are operated byé
    a) UZ4(R)R
    b) OVZ2U(R) R.
    c) U(R) S.
    d) ZDUCR

11. Pickup of 8th WWR in Chain group drops é é é .é .
    a) WWYR.
    b) WLR
    c) WKR2
    d) WKR3.

12. If the point is in required position to the route initiated é é é .é .
    a) Point will not operate and locks directly by W(R) LR.
    b) First point has to operate then it gets locks by WLR.
    c) First point has to operate then it gets locks by W(R) LR.
    d) Point will not operate and locks directly by UZ4(R) R.

13. $Z2WR_1$ is used for
    a) Both Normal and Reverse indications of the point.
    b) Reverse indications of the point.
    c) Only Normal indications of the point.
    d) Only indications of the point.

14. Chain Groups are always provided in accordance to the é é é .é
    a) Number of points.

b) Depends upon the number of Major Point Group in a Relay racks.

c) Depends upon the number of Minor Point Group in a Relay racks.

d) It is Common for the entire yard.

15. The number of Major Point Group in a Relay Rack is

a) 8

b) 5

c) 16

d) 12

Objective Questions

Chapter-1 : EI Basics

1. Prime inputs for the EI Interface design are ----------------- (a)

a) SIP, FPD and RCC b) card files

c) Software d) cables

2. The calculation of EI card file /OC/Housing is mainly depends on ----------- (c)

a) Communication ports b) Communication cables

c) Vital & Non vital bit chart d) Software

3. In EI, application software is--------------------------. (b)

a) Common to all stations b) Station specific

c) Similar to Executive software d) remotely loaded

4. In case of Distributed Interlocking system, _________________ cable is required to be used (b)

a) Object Controllers b) Optical Fiber Cable

c) Aluminum cable d) No cable required

5. In Electronic interlocking system, executive software is ----------------- (b)
   a) Station specific.
   b) Common to all EI's of same model of same OEM.
   c) Similar to Application software
   d) Separately not required.

6. When any unsafe failures are recognised by an EI ----------- (d)
   a) System is steady
   b) Supply voltage to non vital outputs cuts off
   c) No action takes place
   d) System shutdown and all outputs withdrawn.

7. External Data logger provision to EI is ------------ (b)
   a) Not mandatory b) Mandatory
   c) It is a part of EI Hardware d) It is a part of VDU

8. All Electronic Interlocking Systems have (a)
   a) self-diagnostic feature b) No diagnosis process
   c) Inbuilt object controllers d) Housing system

9. By using Object Controllers -------------------------- (b)
   a) communication cable can be reduced
   b) Main signaling cables can be eliminated due to OFC communication
   c) Cost factor can be minimized
   d) Failures can be minimized

10. Based on --------------- calculation, number of I/O cards can be calculated. (d)
    a) Connectors b) wires
    c) card files d) Vital & Non Vital I/O bit

11. ________ works with communication cables (b)
    a) TC b) RRI c) EI d) PI

12. EI has inbuilt -------------------- (a)

    a) Event logger b) Axelcounter

    c) OCs d) Block Instrument

13. The ------------------ converts High level language to Machine Language (c)

    a) Source code b) Object code

    c) Compiler d) Reverse compiler

14. As per latest guide lines -------------- standby set up is to be used in EI. (d)

    a) Cold standby b) Warm standby

    c) power backup d) Hot Standby.

15. --------------- cable is required for the VDU connectivity with EI (d)

    a) Copper cable b) 1.5 Sq mm Signaling cable

    c) power cable d) Serial communication / OFC

16. An EI can be operted by ----------- (d)

    a) CCIP only b) PP

    b) OC d) VDU as well as CCIP

17. The vital out card in an EI ----------------- (b)

    a) Drives INPUT
    b) Delivers output to drive a OUTPUT relays
    c) part of CPU
    d) 12 V DC

18. The EI application logic is loaded in to ------------- (b)

    a) Non Vital I/O card
    b) CPU card
    c) Output card
    d) CPU and Out put cards.

19. _________________ earthing arrangement is required for EI (c)

    a) 2 ohms

b) 10 ohms

c) Perimeter/ ring

d) 10 Megha ohms

20. The external Data logger can be connected to EI through------------- (a)

a) Protocol converter b) Flash EPROMs

c) OFC d) OC

21. To start Application design of EI, the Inputs required are ________ (a)

A) Approved Signal Interlocking Plan & Front Plate Drawing and RCC

B) CT rack termination details.

C) Details of any additional interlocking equipment only.

D) Communication details only.

22. Example for software redundant EI system is -------------- (b)

a) MEI 633 b) MLK II

c) VHLC d) K5BMC

23. Example for Hardware redundant EI system is-------------- (a)

a) MEI 633 b) MLK II

c) WESTRACE d) SIMIS

24. ---------- safety Integrity level to be maintained for Hardware of any EI (d)

a) SIL 1 b) SIL 2

c) SIL 3 d) SIL 4

25.Based on Non Vital I/O bit calculation, --------------- can be calculated. (a)

a) Panel processor cards b) wires count

b) power supply detailes d) communication details

26. EI needs -------------- space (b)

a)more b) less

c) no d) Equal to RRI

27. Self intigrity test is the inbuilt feature of-------------------- (a)

a) EI b) RRI

c) Track circuit d) PI

28. The Reverse Compiler converts ---------------------------------- (b)

a) The Source code b) Object code to source code

c) High level language to Machine Languaged) Compiler

29.In Hot Standby arrangement ---. (d)

a)Cold standby b) only one system ON

c) power backup d) Both systems power ON.

30.The RS 232 serial communication cable is used as (d)

a) Copper cable b) 1.5 Sq mm Signaling cable

c) power cable d) VDU connectivity cable with EI

31. In Warm standby arrangement ----------- (b)

a) Both systems contineously ON b) Only one system is switched ON

c) Redundent d) Both systems OFF

32. ------------------------ verifies the INPUT relay status in an EI (a)

a) INPUT card b) The vital out card

c) CPU d) NV I/O card

33.The CPU card is loaded with (b)

a) Non Vital data only b) Application logic & Executive logic

c) Output relay status only d) operating parameters alone

34. Surge protection arrangement is must for (d)

a) RRI b) Track circuit

c) PI d) EI

35. ------------is connected through Protocol converter (a)

a) The external Datalogger b) Flasher EPROM

c) OFC d) OC

36. The interface between CCIP and the EI is called _____ (c)

a) OCI

b) VDUCT

c) PP

d) NV I/O card

37. MLK II EI is an Example for -------------- (b)

a) Hardware redundant EI system b) software redundant EI system

c) TMR d) 2OO2

38. MEI 633 is the Example for ------------------------ (a)

a) Hardware redundant EI system b) software redundant EI system

c) TMR d) 1OO2

39. SIL 4 safety integrity level is required for (d)

a) VDU Hardware b) MTC

c) VDU software d) EI Hardware

40. ---------------------- contacts are used as Read back contacts (b)

a) Vital in put Relay b) Vital output Relay

c) Non Vital d) Event logger

41. EN 50126 deals with -------------------------- (c)

a) EMC b) Software

c) RAMS d) Communication

42. EN 50121 deals with -------------------------- (A)

A) EMC B) Software

C) RAMS D) Communication

43. ______________PROMS is loaded with Application software. (C)

A) I/O B) Executive

C) Data D) Communication

44. NWKRs, RWKRs are treated as ______ to the Electronic Interlocking system (A)

A) Vital in puts B) Vital outputs

C) Non Vital Inputs D) Non Vital outputs

45. NWKEs, RWKEs are treated as ____ to the Electronic Interlocking system (D)

A) Vital in puts B) Vital output s

C) Non Vital Inputs D) Non Vital outputs

46. HRs, DRs are treated as _________ to the Electronic Interlocking system (B)

A) Vital in puts B) Vital outputs

C) Non Vital Inputs D) Non Vital outputs

47. LXPR, LCPR are treated as __________ to the EI (A)

A) Vital in puts B) Vital outputs

C) Non Vital Inputs D) Non Vital outputs

48. Based on the station interlocking circuits _______ program is prepared (A)

A) Application B) Executive

C) Station Data D) Communication

49. ----------------is used as an operating interface to the EI (C)

A) Object controller B) Maintenance PC

C) VDU/OPC D) Data logger

50. Executive program is loaded in to ------------------- (B)

a) Data EPROMs B) Executive EPROMS

C) I/O connecters D) VDU Pc

Chapter-2 : MLK-II

1. In Microlok-II card file -------------- prevents plugging of wrong type of card. (c)

a) Code pins b) address select jumpers

c) keying plugs d) software prevents .

2. In Microlok II, each card file has ------------- slots. (b)

a) 16 b) 20 c) 14 d) 10

3. Microlok-II is a -------------------- system. (b)

a) 2 out of 2 architecture b) 1out of 1 architecture

c) 2 out of 3 architecture d) TMR.

4. In Microlok-II, ----------------------are used to address particular slot of the card file. (b)

a) EEPROM b) Address select jumpers

c) Dip switches d) PROMs

5 .In Microlok-II card file, CPU card occupies ---------------- slots. (d)

a) 16 and17 slots b) 1 and 2 slots

c) 14 and 15 slots d) 18 and 19 slots

6. In Microlok-II------------- pin Connector assembly is used for Power supplycard (c)

a) 16 b) 2 c) 48 d) 96.

7. The System power supply for MLK-II EI is------------- (b)

a) 16 v DC b) 12 v DC c) 48 v DC d) 96 v DC.

8. The ------------- card makes System Integrity checks and System health status (d)

a) SYNC card b) ECB card

c) OUT 16 d) CPU card

9. In MLK-II EI, _______supply is connected to the system for O/P relay driving (d)

a) 16 v DC b) 12 v DC

c) 50 v DC d) 24 v DC.

10. The external Data logger can be connected to MLK-II through------------------ (a)

a) Protocol converter b) Flash EPROMs

c) OFC d) OC

11. In Microlok-II, the 48 Pin Connector assembly is used for __________ (C)

A) Vital Input boards only B) Vital Output boards only

C) Vital Input and Output boards D) Non-vital I/O boards

12. In Microlok-II, the 96 Pin connector assembly is used for ___________ (D)

A) Vital Input boards only B) Vital Output boards only

C) Vital Input and Output boards D) Non-vital I/O boards

13. In Microlok-II, each card file should be provided with __________ (D)

A) Panel processor B) OC

C) VCOR D) CPU card, Power supply card, I/O cards

14. In Microlok-II, Application Program ' * ' symbol is used for _______ (A)

A) SERIES B) PARALLEL

C) BACK CONTACT D) BIT SEPERATION

15. In Microlok-II, Application Program '+ ' symbol is used for _______ (B)

A) SERIES B) PARALLEL

C) BACK CONTACT D) BIT SEPERATION

16. VCOR Relay has ___________ contacts. (C)

A) 8F/B B) 4F/B C) 6F/B D) 2F/B

17. VCOR Relay contact current rating is____ Amp (B)

A) 1A B) 3A C) 5A D) 50mA

18. In Microlok-II CPU card is provided with ______________ processor. (C)

A) 68000 B) 8086 C) 68332 D) Intel Pentium

19. In Microlok-II system, CPU card is provided with ______ no. of ports. (B)

A) 4 serial and 1 parallel

B) 5 serial

C) 4 parallel and 1 serial

D) 5 parallel.

20. In Microlok-II system, Input capacity of each Vital input card is_______ (B)

A) 8 input B) 16 input C) 32 input D) 64 input

21. In Microlok-II system, each vital output card drives _______no. of relays (C)

A) 4 B) 8 C) 16 D) 32

22. In Microlok-II system, each Non-vital input- output card can be connected with maximum _____ no. of inputs and _____ no. of outputs respectively. (D)

A) 16 Inputs & 16 Outputs B) 8 Inputs & 8 Outputs

C) 16 Inputs & 32 Outputs D) 32 Inputs & 32 Outputs

23. Non-vital Inputs are (A)

A) Control Panel Push Buttons & Key contacts

B) Track Circuits TPRs. Point Detection

C) VCOR indication

D) None

24. In MLK-II Card File, the PS Card is normally placed in the slot no. ____ (C)

A) 18&19 B) 15&16 C) 16&17 D) 20

25. In Microlok-II, MTC can to connect to Port No._____ of CPU card. (D)

A) 1 B) 3 C) 4 D) 5

26. Each Vital input PCB occupies (b)

a) 2 slots b) 1 slot c) 3 slots d) 4 slots

27. Each NonVital I/O PCB occupies (b)

a) 2 slots b) 1 slot c) 3 slots d) 4 slots

28. In Microlok-II, Vital I/O cards are suitable for ---------------- (c)

a) 6 V DC b) 10 V DC c) 24 V DC b) 50 v Dc

29. In Microlok-II, Non-Vital cards are suitable for (c)

a) 6 V DC b) 10V DC c) 24 V DC b) 50 v Dc

30. VCOR relay has (a)

a) 6F/B dependent contact b) 6F/6B independent contact

c) 6F. 6B contact d) 3F.3B

31. VCOR Relay rated current (b)

a) 3 ma b) 3 A c) 30 ma d) 30 A

32. Slow to pick" is defined as (a)

a)"SET = 1 SEC" b) "Clear = 1 SEC"

c) "SETUP = 1 SEC" d) "DELAY=1SEC"

33. Slow to Release" is defined as (b)

a)"SET = 1 SEC" b) "Clear = 1 SEC"

c) "SETUP = 1 SEC" d) "DELAY=1SEC"

34. Microprocessor used in Microlok-II is (a)

a) Motorola 68332 b) Intel 8086

c) Intel 68332 d) Motorola 8086

35. In the Card File the Power Supply PCB is placed in (b)

a) Slot No. 18 & 19 b) Slot No. 16 & 17

c) Slot No. 15 & 16 d) In any slot.

36. In Microlok-II system ----------------- are used for vital interface. (A)

A) RS-485 serial ports B) RS-232 serial ports

C) 96 Pin connector D) Keying plugs

37. In Microlok-II system -------------- are used for Non-Vital data interface. (B)

A) RS-485 serial ports B) RS-232 serial ports

C) 96 Pin connector D) Keying plugs

38. In Microlok-II card file, Max .---- nos. of Input/ Output interface cards can be accommodated (C)

A) 2 B) 4 C) 16 D) 20

39. In Microlok-II card file, Power supply card occupies ------------- slots. (A)

A) 2 B) 4 C) 16 D) 20

40. In Microlok-II --------------- is provided with FLASH ROMs / EEPROMs for storing the executive and application software. (D)

A) Vital I/O cards B) IN 16 C) SOFTWARE D) CPU Card

41. In MLK-II, Error codes are displayed in--------------------- (B)

A) Power Supply Card B) CPU card

C) VCOR D) CPU card, Power supply card, I/O cards

42. In MLK-II, fast static RAMs are used for storing ________________________________(c)

(a) Application program (b) Application program &Executive program

(c) Event logger data (d) Installation Address

43. ----------- of Flash EPROMs are used in the CPU card for program data (b)

a) 2 Nos fast static RAM b) 4 nos

c) one d) 3 nos

44. Application program in the MLK-II EI is written in ---------------------- (B)

A) 'C' language B) Boolean equations

B) UNIX D) assembly language

45. EE PROM is provided in ---------------------connector (C)

C) SYNC card B) ECB card C) CPU card D) 96 pin

46. 1 to 8 LEDs in the CPU card are meant for --------------- messages (b)

a) communication b) user defined error

c) VCOR indication d) point indication.

47. In MLK_II EI, CPS means ------------------ (b)

a) Communication power supply b) conditional power supply

c) Continuous power supply d) contiguous power supply

48. In MLK_II EI, CPS is ------------------HZ (A)

A) 256 B) 512 C) 250 D) 20

49. ---------v dc supply is used to drive all the PCBs (D)

A) +12 B) -12 C) +24 D) +5

50. VCOR is required for-------------- (c)

a) Any MLK-II card file b) MLK-II card file having Vital INPUT cards

c) MLK-II card file having Vital OUTPUT cards d) MLK-II card file with PS card

Chapter-3 : Medha EI

1. MEI 633 is of --------------------------- architecture (a)

a) 2 Out of 2 b) 1 Out of 1

c) 2 Out of 3 d) 2 Out of 4

2. Cycle time in MEI633 is -------------------- (d)

   a) 222ms b) 111ms

   c) 444ms d) 333ms

3. Intercommunication between MEI633 and the OCs is --------------- (c)

   a) CLA b) RS-232/OFC

   c) RS 485/OFC d) RS-423

4. Input supply for the Mini IPS provided in Medha EI room is ----------- (d)

   a) 24V DC b) 230V AC

   c) 110V AC d) 110V DC

5. The output supply of Dc-Dc converters in the Mini IPS of MEI 633 is --------- (a)

   a) 24V DC b) 12V DC

   c) 110V DC d) 60V DC

6. Inter communication between MEI 633 and datalogger is ----------- (c)

   a) RS-485/OFC b) CLA

   c) RS- 232/OFC d) RS-423

7. Max No of Ocs that can be connected to MEI633 is ------------ (d)

   a) 64 b) 128

   c) 16 d) 32

8. Max No of Input cards that can be provided in each OC is --------------- (c)

   a) 6 b) 4

   c) 5 d) 3

9. Max No of output cards that can be provided in each OC is -------------- (d)

a) 6 b) 4

c) 5 d) 3

10. Max No of inputs that can be connected to each Vital I/P card is ------ (a)

a) 8 b) 16

c) 32 d) 12

11. Max No of outputs that can be connected to each Vital O/Pcard is ------- (d)

a) 4 b) 16

c) 32 d) 8

12. ---------------- type of power supply card is provided for CVC/VIC card. (a)

a) B TYPE b) C TYPE

c) A TYPE d) D TYPE

13. --------------- type of power supply card is provided for CCC card. (a)

a) B TYPE b) C TYPE

c) A TYPE d) D TYPE

14. -----------------type of power supply cards are provided for OCs. (b)

a) A & B TYPE b) B & C TYPE

c) C & D TYPE d) A & D TYPE

15. ----------------- type of power supply cards are provided for PP. (a)

a) A & B TYPE b) B & C TYPE

c) C & D TYPE d) A & D TYPE

16. ----------------- No of Rs485 serial ports are available at CIU (b)

a) 16 b) 12

c) 8 d) 10

17. ----------------- No of Rs232 serial ports are available at CIU (a)

a) 3 b) 8

c) 4 d) 2

18. ERROR messages are displayed on ---------------------- of CIU (d)

a) FDP b) FMS

c) VIF d) FPD

19. Max No of vital I/Os that can be handled by an CIU of MEI633 ----- (b)

a) 4072 b) 2048

c) 1048 d) 3072

20. Max No of Non vital I/Os that can be handled by an CIU of MEI633 ----- (d)

a) 4072 b) 2048

c) 1048 d) 3072

21. In Medha EI, RM means ------------ (b)

a) Random Memory b) Relay Module

b) Ring Modem d) Repetition Maximum

22. In Medha EI, RMs acts like----------- converter (a)

a) SERIAL to OFC b) SERIAL to PARELLEL

c) PARELLEL-OFC d) SERIAL-USB

23. In each port of CIU--------------------- No of Ocs can be connected. (c)

a) 8 b) 6 c) 4 d) 32

24. CIF card is used in-------------------- (d)

a) OC b) PP

c) MT d) CIU

25. In MEI633y The rated voltage of VCOR--------------- (d)

a) 12V DC b) 5 V DC

c) 60V DC d) 24V DC

26. MEI 633 has -------------------------- stand by arrangement (a)

a) Hot
b) Warm
c) Cold
d) None

27. Max response time for MEI633 is ------------------ (c)

a) < 1 sec
b) < 2 sec
c) < 3 sec
d) < 4 sec

29. Intercommunication between MEI633 and the PP is ---------------- (c)

a) Parellel
b) Rs-232
c) OFC
d) Rs-423

29. Input supply for the PSB cards provided in Medha EI is--------------- (b)

a) 5V DC
b) 24V DC
c) 12V DC
d) 4.8V DC

30. The output supply of PSB in MEI 633 is------------- (a)

a) 4.5V DV
b) 5.5V DC
c) 4.8V DC
d) 5.8V DC

31. ------------communication channel provide between MEI 633 and MTC (b)

a) Rs-423
b) Rs-232
c) CLA
d) Rs-485

32. Max No of CIUs that can be inter connected to MEI633 is--------------- (a)

a) 2 to 4
b) 2 to 6
c) 2 to 5
d) 2 to 3

33. Max No of RS 485 channels provided in each CIU is -------------------- (b)

a) 8
b) 12
c) 10
d) 16

34. Max No of RS 232 channels provided in each CIU is ------------------- (d)

a) 6
b) 5
c) 4
d) 3

35. Max No of I/Ps connected to each nonVital Input card of a PP is ------- (c)

a) 8
b) 16
c) 64
d) 128

36. Max No of O/Ps can be connected to each nonVital O/P card of a PP is (d)

a) 8
b) 16
c) 128
d) 64

37. 'A' - type of power supply card is provided for ------. (d)

a) CIU

b) OC
c) COUNTER BOX
d) PP

38. 'C'- type of power supply card is provided for ------------------. (b)

a) CIU
b) OC
c) COUNTER BOX
d) PP

39. 'B'- type of power supply cards are provided for -------------------. (a)

a) CIU
b) Mini IPS
c) MTC
d) Datalogger

40. Voltage & Current rating of 'B' type of power supply cards ----------. (b)

a) 4.5V @ 8A
b) 4.5V @ 3A
c) 4.5V @ 6A
d) 4.5V @ 2A

41. Voltage & Current rating of 'C' type of power supply cards ----------. (c)

a) 4.5V @ 8A
b) 4.5V @ 3A
c) 4.5V @ 6A, 5.8@ 2A
d) 4.5V@ 2A

42. Voltage & Current rating of 'A' type of power supply cards ----------. (a)

a) 4.5V @ 8A
b) 4.5V @ 3A
c) 4.5V @ 6A
d) 4.5V @ 2A

43. Counter digits are displayed on---------------------- (c)

a) CIU
b) OC
c) COUNTER BOX Module
d) PP

44. Max No of Routes that can be handled by an CIU of MEI633 --------- (c)

a) 250
b) 350
c) 450
d) 550

45. ------------- type of SPD is provided in 24V DC supply (d)

a) A
b) B
c) C
d) D

46. WFM means---------------- (c)

a) Point function module
b) Point frequency module
c) Wayside function module
d) Wayside frequency module

47. WFP means ----------- (d)

a) Warm function processor
b) Warm frontend processor
c) Wayside frontend processor
d) Wayside function processor

48. In each port of CIU------------- No of PPs / VDUs can be connected. (a)

a) 4
b) 3
c) 2
d) 1

49. ORLD card is used in------------------ (b)

a) CIU
b) OC
c) COUNTER BOX
d) PP

50. The rated current of VCOR--------------- (b)

a) 4
b) 3
c) 2
d) 1

1. WESTRACE EI has ------ Architecture (b)
    a) 1 out of 2 logic
    b) 1 out of 1 logic
    c) 2 out of 2 logic
    d) 2 out of 1 logic

2. VLM means ---------------- (d)
    a) Vital link model
    b) Vital link module
    c) Vital logic model
    d) Vital logic module

3. NCDM means ------------ (d)
    a) Network centre debug module
    b) Network centre diagnosis model
    c) Network communication debug module
    d) Network communication diagnostic module

4. VLM includes -------------- (c)
    a) VLC & PFM
    b) VLC & PSU
    c) VLC & OPC
    d) VLC& VLOM

5. NCDM includes --------------- (c)
    a) NCDC & PFM
    b) NCDC& PSU
    c) NCDC & OPC
    d) NCDC & VLOM

6. WESTCAD is used for -------------- (b)
    a) MT
    b) VDU
    c) PP
    d) CTC

7. MOVOLAW is used as ------------- (a)
   a) MT
   b) VDU
   c) PP
   d) CTC

8. One WESTRACE consists of Max ------------- Housings (d)
   a) 1
   b) 2
   c) 3
   d) 4

9. One Housing consists of ------------------- No of slots (b)
   a) 14
   b) 16
   c) 18
   d) 20

10. First Housing can accomdate Max --------------- I/O Modules (c)
    a) 9
    b) 7
    c) 5
    d) 3

11. Other than 1st Housing can accomdate max ------------- I/O Modules (b)
    a) 9
    b) 7
    c) 5
    d) 3

12. VLM to be located in --------------- slots (b)
    a) 1 & 2
    b) 2 & 3
    c) 3 & 4
    d) 4 & 5

13. NCDM to be located in --------------- slots (d)

a) 1
b) 2
c) 3 & 4
d) 4

14. In the WESTRACE EI, Vital O/P module is named as -------------- (c)

a) VPOM
b) VIOM
c) VROM
d) VLOM

15. In the WESTRACE EI, Vital I/P module is named as -------------- (a)

a) VPIM
b) VRIM
c) VLIM
d) VIOM

16. In the WESTRACE EI, Max No of I/Ps that can be connected to a Vital I/P module is --------------- (c)

a) 8
b) 10
c) 12
d) 16

17. In the WESTRACE EI, Max No of O/Ps that can be connected to a Vital O/P module is --------------- (a)

a) 8
b) 10
c) 12
d) 16

18. How many WETRACE units can be interconnected? (d)

a) 8
b) 10
c) 12

d) 16

19. NCDM consists of --------------------- Serial COM ports (c)
    a) 1
    b) 2
    c) 3
    d) 4

20. NCDM consists of --------------------- Ethernet COM ports (a)
    a) 1
    b) 2
    c) 3
    d) 4

21. NCDM consists of --------------------- OFC ports (b)
    a) 1
    b) 2
    c) 3
    d) 4

22. IHCL is used for -------------- (d)
    a) Interconnects between VLC & OPC
    b) Interconnects between VLM & NCDM
    c) Intercoommunication between NCDM to NCDM
    d) Intercoommunication between VLM to VLM

23. INCL is used for -------------- (c)
    a) Interconnects between VLC & OPC
    b) Interconnects between VLM & NCDM
    c) Intercoommunication between NCDM to NCDM
    d) Intercoommunication between VLM to VLM

24. WESTRONICS can be connected through ------------------ port. (a)
    a) SERIAL
    b) ETHERNET
    c) OFC
    d) PARALLEL

25. PFM means ---------------- (d)
    a) Power Factor Module
    b) Power fillter module
    c) Protection factor module
    d) Protection filter module

26. OPCR works on --------------- voltage (c)
    a. 12V DC
    b. 24V DC
    c. 50V DC
    d. 60V DC

27. In WESTRACE EI, the RJ 45 connector is provided in ----------- card (b)
    a. VLM
    b. NCDM
    c. VPIM
    d. VROM

28. In WESTRACE EI, OFC ports are provided in ------------ card (b)
    a. VLM
    b. NCDM
    c. VPIM
    d. VROM

29. VDU is to be connected to ----------------- port (d)
    a. Ethernet
    b. OFC
    c. Parallel
    d. Serial/ Ethernet

30. Moviolaw can be connected to --------------- port (a)
    a. Ethernet / serial
    b. OFC
    c. Parallel
    d. Serial

31. In WESTRACE EI, External data logger can be connected to ------------ port (a)
    a. Serial
    b. Parallel
    c. OFC
    d. Ethernet

32. System Input supply for the WESTRACE EI is -------- (b)
    a. 12v & 60v DC
    b. 24v & 50v DC
    c. 24v & 60v DC
    d. 12v & 60 v DC

33. In WESTRACE EI, Slot No --------- is dedicated for PSU (d)
    a. 1
    b. 2
    c. 15
    d. 16

34. In WESTRACE EI, blank slot is filled with ---------------- (b)
    a. OPC card
    b. Blanker card
    c. VPIM card
    d. VROM card

35. In WESTRACE EI, Slot no 1&15 in the1st Housing filled with --------------- (c)
    a. VROM card
    b. VPIM card
    c. Blanker card
    d. VLOM card

36. In WESTRACE EI, VSEV means ----------- (b)
    a. Virtual serial emergency voltage
    b. Vital serial enable voltage

c. Virtual serial enable voltage
d. Vital serial emergency voltage

37. In WESTR\ACE EI, VSEV voltage is meant for ------------- (b)
   a. OPCR energisation
   b. Hot standby synchronization
   c. Warm standby
   d. Stand alone working

38. In WESTRACE EI, VSEV voltage is ------------- (c)
   a. 5v DC
   b. 12v DC
   c. 24v DC
   d. 50v DC

39. In WESTRACE EI, The ---------- is provided as mini mother board for VL M&NCDM (a)
   a. UHVBC
   b. UHVLM
   c. UHNCDM
   d. UHPSU

40. In WESTRACE EI, One PSU can be connected to Max ---------- Housings. (c)
   a. 4
   b. 3
   c. 2
   d. 1

41. Max ------ No of I/O modules can be accommodated in an WESTRACE (b)
   a. 16
   b. 26
   c. 14
   d. 12

42. The output voltage of VROM is -------------- (d)
   a. 5v DC
   b. 12v DC
   c. 24v DC

d. 50v DC

43. --------------- voltage relays used as Vital O/P relays in the WESTRACE EI (a)

a. Q Series 50v
b. Q Series 12v
c. K-50 60v
d. Q series 24v

44. -------------- voltage relays used as Vital I/P relays in the WESTRACE EI (d)

a. Q Series 50v
b. Q Series 12v
c. K-50 60v
d. Q series 24v

45. Input range of PSU in WESTRACE EI is ----------------------- (c)

a. 10-18v DC
b. 15-25V DC
c. 18-30V DC
d. 16.5-26.5V DC

46. PCGE is used for -------------- generation (c)

a. User data log files
b. Application logic files
c. Station Layout files for VDU
d. Maintenance tool files

47. The interlocking circuits in the WESTRACE EI is called as -------------- (b)

a. Rings
b. Rungs
c. Rongs
d. Rangs

48. ----------- logic is used for writing WESTRACE Application program (a)

a. Ladder
b. Gate
c. Maxwell

d. Boolean

49. In WESTRACE EI, PFM is used as ------------- (a)

a. SPD b. LPD

c. MOV d. ELD

d. CAT 5 cable is used for -------- communication in WESTRACE EI. (d)

a. Serial b. OFC

c. Parallel d. Ethernet

Objective Questions

Chapter -1 : Introduction

1) Lamp proving relay picks up when the
   a) Signal lamp glows
   b) Panel Key lamp glows
   c) Point machine lamp glows
   d) Gate indication lamp glows (a)

2) Contactor relays are used for feeding
   a) Low current Circuits
   b) High current Circuits
   c) Medium current Circuits
   d) No current Circuits (b)

3) In Metal to Carbon contact relays, the Metal contact element is made of
   a) Bronze
   b) Steel
   c) Silver
   d) Gold (c)

4) WLR stands for
   a) Point lock relay
   b) Point lever relay
   c) Point rotation relay
   d) Point left side relay (a)

5) TRSR stands for
   a) Train Sending Relay
   b) Train stick relay
   c) Train right stick relay
   d) Track right stick relay (a)

6) UCR stands for
   a) Route controlling relay
   b) Route register relay
   c) Route checking relay
   d) Route relay Interlocking (c)

7) ASR stands for

a) Advance starter control relay
b) Approach stick relay
c) Advance search relay
d) Approach search relay (b)

8) WRR stands for

a) Point reverse operation relay
b) Point normal operation relay
c) Point right operation relay
d) Point left operation relay (a)

9) WJR relay stands for point flashing relay

a) Point Indication Relay
b) Point Motor operational Relay
c) Point Snubbing Relay
d) Point Timer Relay (d)

10) GNCR stands for green aspect checking relay

(a) Signal Normal Control Relay
(b) Signal Reverse Control Relay
(c) Signal Button Control Relay
(d) Ground Lever Control Relay (c)

11) XYNR stands for Gate control slot release Button relay

(a) Gate Operating Relay
(b) Gate control slot release Button relay
(c) Level Crossing Closing Relay
(d) Level Crossing Locking Relay ans (b)

12) WNR stands for Point normal relay

(a) Point Button Relay
(b) Point Detection Relay
(c) Point Checking Relay
(d) Point Status Proving Relay ans (a)

13) EUYR stands for

a) Emergency Route release Relay
b) Emergency Route Relay
c) Emergency Lock Relay
d) Electric Lamp Relay ans (a)

14) WWNR means

a) Common Button Relay

b) Common Point Relay
c) Common Point Button Relay
d) Common Signal Relay ans (c)

15) XOKR stands for
a) Wrong Operational detection Relay
b) Right Indication Relay
c) Gate Opened Indicating Relay
d) Gate closed Relay ans (c)

16) WR means
a) Point Relay
b) Point Contactor Relay
c) Point Latch Relay
d) Point detection Relay ans (b)

17) EWZ means
a) Emergency Counter
b) Emergency Point operation counter
c) Point Special Relay
d) Point scanning Relay ans (b)

18) CO-GGNR means
a) Common Signal Relay
b) Common Button Relay
c) Common Button for Calling-on signals
d) Common Bus- bar ans (c)

19) CHKLR means
a) Calling-on Signal
b) Catch siding
c) Crank Handle Key Lock Relay
d) Crossing Point ans (c)

20) TSR means
a) Track stop board
b) Track Stick Relay
c) Track Running Relay
d) Track Slot Relay ans (b)

21) WLR means
a) Whistle Level Crossing

b) Whistle Long
c) Whistle Short
d) Point Lock Relay ans (d)

22) UCR means
a) Underground Cable
b) Undo the prescription
c) Route Checking Relay
d) Route Crossing Relay ans (c)

23) Power Cables are meant for
a) Carrying Shunt Signal supply
b) To transmit Power Supply
c) To regulate Electric Supply
d) To step down supply ans (b)

24) Signal aspect is sensed by
a) Electronics
b) Artificial Intelligence
c) Lamp Proving Relays
d) Radio Waves ans (c)

25) Copper slug is meant for
a) DC suppression
b) AC Immunisation
c) Traction Area
d) Non-RE Area ans (b)

26) Route Locking is achieved by employing
a) WLR
b) ASR
c) TSR
d) TRSR ans (b)

27) Sequential Route Release is achieved by
a) UYR-1andUYR-2
b) TSR
c) WLR
d) TLSR ans (a)

Chapter-2 : Signalling Relays

1) All relays other than Track relays are known as
   (a) Line relays
   (b) Neutral Relays
   (c) Polar Relays
   (d) Two Position Relay (a)

2) Vital Relay is used for detecting presence of
   (a) SMÕs Key
   (b) Train
   (c) LC Gate operation
   (d) Simultaneous Reception (b)

3) Metal to Metal contact relays are known as
   (a) Non-proved Type
   (b) Proved Type
   (c) Polar Relays
   (d) AC immunised Relays (b)

4) Polar relay works on the principle of
   (a) Direction of the Traffic
   (b) Direction of Current
   (c) Direction of Train
   (d) Direction of Motor Trolley (b)

5) The relay core is made up of
   (a) specially selected Iron
   (b) specially selected Tin
   (c) specially selected Copper
   (d) specially selected Silver (a)

6) The bottom of each core is equipped with a
   (a) Silver block
   (b) Iron block known as pole piece or face.
   (c) Aluminium
   (d) Brass (b)

7) Timer Relay is used for

(a) Time delay

(b) Time slot

(c) Time registration

(d) reading Data Logger clock (a)

8) In any Electro-magnetic system, the force attraction F is directly proportional to

a) B.B.a

b) B.a

c) B.a.a

d) a.B (a)

9) AC Track circuits are used in

a) AC Traction Area

b) DC Traction Area

c) Non-RE Area

d) LC Gate Area (b)

10) Electro-magnetic Iron may be in the form of

a) Magnesium bars

b) Swedish charcoal Iron

c) Copper bars

d) Silver bars (b)

11) ABB relay contacts are of

a) Metal to Carbon

b) Metal to Metal

c) Carbon to Silver

d) Carbon to Carbon (b)

12) The air gap between core and armature of the relay has

(a) a positive effect on the release time of the relay

(b) negative effect on release Time

(c) no effect

(d) multiplies the Time (a)

13) High hysteresis loss

a) improves the sensitivity of the relay

b) malfunctions the Relay

c) causes heating effect

d) nullifies the flux (a)

14) More number of contacts of a Relay

(a) Increase the Load current of the Relay Coil

(b) Decrease the Load current

(c) No change in Load current

(d) Require less Load current (a)

15) The Relay Iron should have

(a) High Hysteresis loss

(b) Low Hysteresis loss

(c) High retentivity

(d) Optimum Hysteresis loss (b)

16) Armature of a Relay is supported by

(a) Brackets

(b) Bolts and Nuts

(c) Insulated materials

(d) Copper strips (a)

17) The Relays operating the Buzzers are called as

(a) Vital Relays

(b) Non-Relays

(c) Line Relays

(d) Track Relays (b)

18) Relays are

a) Sophisticated switch gears

b) Solid state components

c) Linked electrical apparatus

d) Transmitters (a)

19) DC Relays with Electronic components are called as

a) Latched Relays

b) Magnetic Relays

c) Electronic Relays

d) Remote Relays (c)

20) Railway Signalling Relays operate on

a) High Voltage and Current

b) Low Voltage and Current

c) High Resistance

d) Low Resistance (b)

21) In case of Proved Type Relays.

a) Each operation is to be logged

b) Normalisation after each operation is to be proved in circuit
c) Energisation of the Relay is to be proved
d) Malfunction of relay is to be proved. (b)

22) In DC Neutral Relay, the magnetic Flux passes through
a) Only Yoke
b) Yoke and Armature
c) Only Stop Pin
d) Conductor (b)

23) It is essential to maintain a small air gap between the armature and Pole faces so that
a) High value of residual magnetism is achieved
b) Low value of residual magnetism is achieved
c) High current is passed
d) Low current is passed (b)

24) The difference between pick-up and drop away current of a Track Relay should be
a) As small as possible
b) High
c) Steady
d) Variable (a)

25) When the supply is disconnected to Relay, the Flux decay exists for a while due to
a) No current
b) Eddy currents
c) High current
d) Low current (b)

Chapter-3 : Shelf Type DC Line & Track Relays

1) Maximum number of arm contact springs ,the armature of shelf type relay can carry
   a) 4 b) 5 c) 6 d) 8 (Ans : c)

2) The front contacts of shelf type relay are made of
   a) SIG b) Carbon c) Copper d) Nickel (Ans : a)

3) The maximum permitted resistance of front contacts of a shelf type relay is
   a) 0.5 ohm b) 0.2 ohm c) 0.12 ohm d) 1.0 ohms (Ans : b)

4) Each coil of a shelf type line relay has a resistance of ------- ohms
   a) 250 b) 400 c) 500 d) 700 (Ans : c)

5) Maximum number of back contacts of a non immunised shelf type track relay are
   a) 4 b) 2 c) 6 d) 8 (Ans : b)

6) The front contacts of shelf type can carry ---- Amps current continuously
   a) 2 b) 3 c) 5 d) 9 (Ans : b)

7) The maximum pickup voltage of a 9 ohms shelf type track relay is
   a) 0.56 v b) 1.4v c) 5 d) None (Ans : d)

8) The minimum percentage release of shelf type line relay is
   a) 40% b) 50% c) 65% d) 70% (Ans : b)

9) The minimum percentage release of shelf type track relay is
   a) 60% b) 56% c) 68% d) 75% (Ans : c)

10) The AC immunity of a ac immunised shelf type track relay is
   a) 40V b) 10V c) 50V d) 60V (Ans : c)

11) The period of overhauling for a shelf type line relay is
   a) 10 years b) 20 years c) 15years d) 25 Years (Ans : c)

12) The Normal working voltage of shelf type line relay is
   a) 24V b) 12V c) 10V d) 24V (Ans : b)

13) The Coil Resistance of line Relay is
   a) Two Coils of 200 Ohms each
   b) Two Coils of 500 Ohms each
   c) Two Coils of 400 Ohms each
   d) Two Coils of 600 Ohms each (Ans : b)

14) Independent contact means, the condition in which
   a) the movable arm contact connects to only front contact
   b) the movable arm contact connects to either a front or a back contact but not to both
   c) the movable arm contact connects a back contact
   d) the movable arm contact connects no contact (Ans : b)

15) Back contact of a Relay means
   a) That contact which is made with 'arm contact' when the relay is energized.
   b) That contact which is made with 'arm contact' when the relay is de-energized.
   c) That contact which is not movable
   d) That contact which is movable (Ans : b)

16) To avoid damage to contacts of Track Relay during transportation,
   a) the relay shall be handled carefully
   b) the relay shall be provided with bolt and nuts
   c) the relay shall be provided with a transport screw.
   d) the relay shall be provided with copper slug (Ans : c)

17) Contact Current rating for continuous front contact of Line Relay
   a) 5 A
   b) 3 A
   c) 6 A
   d) 4 A (Ans : b)

18) Maximum operating time for front contacts of a non-ACI Line Relay
   a) 300 ms
   b) 450 ms
   c) 580 ms
   d) 700 ms (Ans : b)

19) Permissible max. rise in P.U current from initial value for line Relay
   a) 20%
   b) 10%
   c) 30%
   d) 25% (Ans : b)

20) Track Relays carry less number of contacts
   a) To have high power operation
   b) To have low power operation
   c) To have no power operation
   d) To have optimum power operation (Ans : b)

21) The Track relay shall not get energized

a) with abrupt application of up to 250V 50Hz AC to its coil.

b) with abrupt application of up to 350V 50Hz AC to its coil.

c) with abrupt application of up to 450V 50Hz AC to its coil.

d) with abrupt application of up to 650V 50Hz AC to its coil. (Ans : b)

22) Minimum total pick up time, when the Track Relay is fed with 250% of the maximum specified pick up current,

a) shall not be less than 450 milli seconds

b) shall not be less than 650 milli seconds

c) shall not be less than 250 milli seconds

d) shall not be less than 850 milli seconds (Ans : c)

23) In case of AC Immunised Track Relays, when the coil current is falling,

a) the slug current favours the decay of flux through the core.

b) the slug current opposes the decay of flux through the core.

c) the slug current nullifies the flux through the core.

d) the slug current increases. (Ans : b)

24) Maximum drop away transfer time when the relay is fed with 250% of the max. Specified pick up current

a) shall not be more than 600 milli seconds.

b) shall not be more than 300 milli seconds.

c) shall not be more than 200 milli seconds.

d) shall not be more than 150 milli seconds. (Ans : c)

25) When 100V 50Hz AC voltage is applied continuously to AC Immunised Shelf Type Line relay coil(s) for 30 minutes,.

a) the heat generated in the coils shall not damage the coils

b) the heat generated in the coils shall not damage the Yoke

c) the heat generated in the coils shall not damage the copper slug

d) the heat generated in the coils shall not damage the insulation of the coils (Ans : d)

Chapter-4 : Plug In Type DC Line Relays (Non-Proved Type)

1) Q series relays have

a) different plug board

b) common plug board

c) no plug board

d) only partial plug boards (b)

2) Q series relays have

a) metal to metal contacts

b) metal to carbon contacts

c) carbon to carbon contacts

d) silver to silver contacts (b)

3) All the contacts of Q series relay are

a) Dependent contacts

b) 3position contacts

c) Series contacts

d) independent contacts (d)

4) No electrical connection is possible between plug board and the relay base

a) Relay Jack bolts are provided

b) Relay retention clip is provided

c) until code pins were correctly engaged.

d) Relay Rack is installed (c)

5) The fundamental relay of the Q-series is

a) the DC neutral line relay style QN1.

b) the DC neutral line relay style QN2

c) the DC neutral line relay style QN3

d) the DC neutral line relay style QN4 (a)

6) In DC Nuetral Plug-in type QN1 Relays, the contact springs are made of

a) Phosphor bronze

b) Manganese

c) Silver

d) Nickel (a)

7) The base of a Plug-in Type Relay is

a) Iron piece moulding

b) moulding of non-hygroscope thermosetting material.

c) Aluminium moulding

d) Magnetic material (b)

8) Armature of a Plug-in Type Relay is

a) mounted on a Aluminium pivot plate riveted to the heel piece.

b) mounted on a Phosphor Bronze pivot plate riveted to the heel piece.

c) Bronze plate

d) Copper plate (b)

9) Periodical overhauling of Shelf Type Track Relays

a) 20 years

b) 10 years

c) 5 years

d) 8 years (b)

10) The rated life of Q series relays

a) 1000 operations

b) 2000 operations

c) 10,00,000 operations

d) 5000 operations (c)

11) Residual pin is not provided on the armature of a Q series

a) Neutral Relays

b) Electrical Latch Relays

c) Mechanical Latch Relays

d) Magnetic latch relay (d)

12) On the plug board of a Q series relay,

a) Three Coil connections can be terminated

b) Two coil connections can be terminated

c) Four coil connections can be terminated

d) Five coil connections can be terminated (b)

13) The operating Current of QN 1 Relay is

a) 70 Ma

b) 60mA

c) 40mA

d) 80mA (b)

14) The Coil Resistance of DC twin Neutral Line Relay (QNN 1) is

a) 600 Ohms

b) 470 Ohms

c) 500 Ohms

d) 300 Ohms (b)

15) AC immunity level of QNA 1 Relay is

a) 2000V (R.M.S) 1-phase 50 Hz

b) 1000V (R.M.S) 1-phase 50 Hz

c) 3000V (R.M.S) 1-phase 50 Hz

d) 4000V (R.M.S) 1-phase 50 Hz (b)

16) The operating current of QS3: Q Series Sensitive Neutral Relay

a) 34mA

b) 20mA

c) 12mA

d) 15mA (c)

17) Minimum Pick Up Voltage for QS 3 Relay is

a) 10 V

b) 7.5 V

c) 12 V

d) 15 V (b)

18) The rated Voltage and Current for QB 3 Relay

a) 24V and 100mA

b) 12V and 60mA

c) 10V and 25mA

d) 8Vand 10mA (b)

19) The front contacts of QBCA 1 can carry and switch up to (at 110 VDC).

a) 20A

b) 10A

c) 30A

d) 15A (c)

20) The Coil Resistance of QSPA 1 is

a) 300 Ohms

b) 208 Ohms

c) 100 Ohms

d) 400 Ohms (b)

21) Maximum pickup voltage of QN1 relay is

a) 9 V
b) 19.8V
c) 19.2V
d) 12V (c)

22) Minimum drop away voltage of QN1 relay is
a) 3.0V
b) 3.6V
c) 4.2V
d) 10V (b)

23) AC immunity (volts) of QN1 relay is
a) 200
b) 300
c) 1000
d) None of the above (b)

24) Coil resistance of QS3 relay is ------- ohms
a) 600
b) 1000
c) 400
d) 300 (b)

25) AC Immunity of QSRA 1 Relay
a) 400V AC
b) 300V AC
c) 600V AC
d) 800V AC (b)

26) The working Voltage of QL 1 Relay is
a) 12 V
b) 24V
c) 10V
d) 20V (b)

27) The Resistance of Reverse Coil of QL1 Relay
a) 100 Ohms
b) 200 Ohms
c) 145 Ohms
d) 300 Ohms (c)

Chapter-5 : Plug In Type DC Line Relays (Proved Type)

1) The contact resistance of a new proved type relays shall not exceed -------
(a) 0.5 ohms (b) 0.1 ohms (c) 0.6 ohms (d) 0.4 ohms ans (b)

2) The contacts of proved type relays are rated for a continuous current of -----
(a) 3 Amps (b) 4amps (c) 6amps (d) 8amps ans (a)

3) The K -50 mini relay group has ----- code pins
(a) 4 (b) 3 (c) 2 (d) 5 ans (c)

4) The K -50 mini relay group has ---- guide pins
(a) 2 (b) 3 (c) 4 (d) 5 ans (c)

5) The K -50 interlocked relay has a
(a) mechanical latch (b) electrical latch
(c) electromechanical latch (d) none of the above ans (a)

6) The K -50 mini relay group can have a maximum of ----- relays
(a) 4 (b) 2 (c) 5 (d) 10 ans (b)

7) The K -50 mini relay group can have a maximum of ------ contacts
(a) 5 (b) 6 (c) 8 (d) 10 ans (c)

8) In a K 50 relay with 6F/2B configuration contact number ----- are back contacts
(a) 02&12 (b) 03&13 (c) 04& 14 (d) 05&15 ans (d)

9) In a K 50 relay with 4F/4B configuration contact number ------ are front contacts
(a) 03 & 13 (b) 02&12 (c) 04& 14 (d) 05&15

10) The operating voltage of K-50 Neutral relay is DC
(a) 50v (b) 60v (c) 80v (d) 90v ans (b)

11) The release time of a K 50 relay is ----------
(a) 15 to 7 m sec (b) 14-8ms (c) 16-5ms (d) 12-5ms ans (a)

12) The thickness of residual pin of a K50 ï E type relay is -----
(a) 0.45mm (b) 0.30mm (c) 0 .15mm (d) 0.40mm ans (a)

13) The ON ï ECR & OFF ï ECR relays are classified as -------
(a) K50 ï E type (b) k50 ï A (c) K50 ï B (d) none ans (a)

14) The Interlocked relays are classified as ------ type

(a) K50 ï B (b) K50 ï A (c) K50 ï E (d) K-17 ans (b)

15) The UECR relays are classified as ----- type

(a) K50 ï B (b) K50 ï A (c) K50 ï E (d) K-20 ans(a)

16) The coil resistance of an AC immunised K-50 immunised relay is -------

(A) 1800 ohms (b) 1810omhs (c) 1840 ohms (d) 1800 ohms ans (c)

17) The coil resistance of an 5F/3B K-50 Neutral relay is -------

(a) 1300ohms (b) 1260 ohms (c) 1810phms (d) 1900 ohms ans (b)

18) The coil resistance of an K- 50 Interlocked relay is -------

(a) 815 ohms (b) 800ohms (c) 750 ohms (d) 400 ohms ans (d)

19) The K-50 ECR relay has maximum ----- contacts only

(a) 4 (b) 5 (c) 2 (d) none ans (d)

20) The thickness of residual pin in K50- A type relay -----

(a) 0.35mm (b) 0 .15mm (c) 0.45mm (d) 0.50mm ans (a)

21) The thickness of residual pin in K50- B type relay -----

(a) 0.35mm (b) 0.15mm (c) 0.45mm (d) 0.90mm ans (b)

22) The thickness of residual pin in K50- E type relay -----

(a) 0.35mm (b) 0.15mm (c) 0.45mm (d) 0.68mm ans (c)

23) Coil resistance of interlocked relays -------

(a) 615 ohms (b) 600 ohms (c) 625ohms (d) 300 ohms ans (a)

24) The coil resistance of lamp checking relay ------

(a) 64.1 ohms (b) 65.0 ohms (c) 66.1 ohms (d) 70 ohms ans (a)

Chapter-6 : Lamp Proving Relays

1) The ----- transformer is connected in series with the secondary of the signal transformer

   (a) I type (b) h type (c) L type (d) none ans (b)

2) The------ transformer is used to energise ECR relay

   (a) I type (b) h type (c) L type (d) none ans (b)

3) The ------ transformer is connected in series with the primary of the signal transformer

   (a) I type (b) h type (c) L type (d) B type ans (c)

4) The ------ transformer is connected in series with the secondary of the signal transformer

   (a) H type (b) I type (c) L type (d) none ans (a)

5) ------ type current transformers are suitable for low current circuits

   (a) H type (b) I type (c) L type (d) b and c ans (d)

6) The voltage ratio of current transformer in Siemens type RECR is

   (a) 1: 3 (b) 1: 4 (c) 1:5 (d) 1:6 ans (a)

7) The voltage ratio of current transformer in Siemens type RECR is

   (a) 1: 2 (b) 1: 4 (c) 1:5 (d) 1:6 ans (a)

8) The coil resistance of Siemens type UECR is ---

   (a) 64.1 ohms (b) 645ohms (c) 1820ohms (d) 615 ohms ans (a)

9) In Potential Drop Method of RECR Circuit, the Resistance employed on primary side of Signal Transformer is

   a) 500 ohms b) 600 ohms c) 800 ohms d) 1000 ohms ans (d)

10) When the Signal lamp is lit a potential drop method, the Voltage obtained Resistor is about

   a) 6V b) 8V c) 9V d) 10 V ans (d)

11) When the Signal lamp is not lit a potential drop method, the signal transformer will work as a

   a) resistor b) choke c) condenser d) diode ans (d)

12) The number of diodes used in ECR mehod for rectification

   a) 2 b) 4 c) 1 d) 3 ans (b)

13) 'I' type of current transformer is connected in series with

   a) the primary of the Signal transformer

b) the secondary of the Signal Transformer

c) the primary of the step up transformer

d) the secondary of the step up transformer ans (a)

14) In case of 'I' type of current transformer, the secondary of a current transformer is connected to

a) 6V/4W indication lamp b) 12V/4W indication lamp

c) 4V/4W indication lamp d) 8V/4W indication lamp ans (b)

15) The secondary voltage of the `LôType current transformer is rectified and utilised to

a) energise neutral relay

b) de-energise neutral Relay

c) energise AC immunised relay

d) de-energise AC immunised relay ans (a)

16) The draw back of Potential drop method with respect to Signal Lamp Indication is

a) Greater drop in voltage

b) Reacting Time of ECR

c) Maximum Power Transfer

d) Inrensity of Light ans (a)

17) Bridge rectifier is employed in ECR Circuits in order to convert

a) DC into AC

b) AC into DC

c) DC into DC

d) get Amplification ans (b)

18) When the Signal lamp fuses in Potential Drop method, the current through the resistance

a) increases

b) decreases

c) becomes nil

d) does not change. ans (b)

19) In ECR circuit, the voltage required for the energisation of relay can be adjusted by employing

a) condenser

b) variable resistor

c) Diode

d) Inductance coil ans (b)

20) ECR means

a) Emergency Coding Relay

b) Electric Lamp Checking Relay

c) Encryption Coding Relay

d) Entry Checking Relay ans (b)

21) In Current Transformer method, if the Signal Lamp fuses then no load current On primary side of Signal is

a) less than 12mA

b) less than 15mA

c) less than 10mA

d) less than 8mA ans (b)

22) `Iôtype of current transformer is provided where

a) only LC Gate Indication is given

b) only Point Indication is given

c) only Signal Aspect Indication is to be given

d) SMês Key Indication is given ans (c)

23) 'L' type Transformer is suitable for low current in the range of

a) 0.3 Amp on the primary

b) 0.4 Amp on the primary

c) 0.5 Amp on the primary

d) 0.6 Amp on the primary ans (a)

24) 'H' type:- Suitable for high current in the range of

a) 1.5 Amp on the primary side

b) 2.5 Amp on the primary side

c) 3.5 Amp on the primary side

d) 4.5 Amp on the primary side ans (b)

25) In triple pole lamp MECR circuit,

a) óHôtype current transformer is used

b) `Lôtype current Transformer is used

c) No current Transformer is used

d) MCB is used ans (a)

Chapter-7 : Time Element Relays

1) The Siemens Motorised clockwork timer relay needs both -----to function
   (a) 110 v AC & 24v DC (b) 110 v AC & 12 V DC
   (b) (c) 110V AC & 110V DC (d) 230 V DC ans (a)

2) The Siemens Motorised clockwork timer relay has a time range of -------
   (a)1 to 2 minutes (b) 1 to 5mins (c) 1 to 4 mins (d) 5mins ans (b)

3) In thermal timer relay the closing of cold contact ------- JSR relay
   (a) de-energises (b) energises
   (c) ideal state (d) evaporates ans (b)

4) In thermal timer relay the hot contact is not proved in the circuit of
   (a) JR (b) JSR (c) AJPR (d) TPR ans (a)

5) In Siemens motorised timer relay the no. of pinions and no. of gear wheels
   (a) 4 and 4 (b) 4 and 5 (c) 3 and 4 (d) 3 and 5 ans (a)

6) Specification of electronic timer relay is ---------
   (a) BR Spec no 934 (b) BR Spec no 936
   (b) (c) BR Spec no 935 (d) BR Spec no 937 ans (d)

Chapter-8 : Plug In Type Track Relays

1) The 4ohms QT2 relay is used for ----- track circuits
   (a) Short (b) long (c) medium (d) none ans (b)

2) 9 ohms QT2 relay is used for -------- track circuits
   (a) Short (b) long (c) medium (d) none ans (a)

3) Coil resistance of line relay --------
   (a) 4ohms and 9 ohms (b) 9 ohms and 5 ohms
   (c) 4 and 5ohms (d) 4 ohms and 8 ohms ans (a)

4) Track relays are designed with less number of contacts to make them
   (a) More sensitive (b) less sensitive
   (c) not effects its sensitivity (d) none ans (a)

5) The pickup voltage of QT2 relay with 9 ohms coil is
   (a) 1.7v (b) 1.5V (c) 1.3 v (d) 1.4 v ans (b)

6) The AC immunity of QTA2 relay is
   (a) 60V AC (b) 30V AC (c) 50V AC (d) 40 V AC ans (c)

7) The contact configuration of QTA2 is
   (a) 2F/1B (b) 4F/2B (c) 2F/2B (d) 4F/4B ans (a)

8) ---------- is used as the second repeater of QTA2 in RE area
   (a) QN1 (b) QNA1 (c) QSPA1 (d) QTA2 ans (c)

9) The maximum length of Track circuit permitted with QTA2 is
   (a) 250mt (b) 450 mts (c) 720 mts (d) 200 mts ans (b)

10) Pickup voltage of QTA2 relay with 9 ohms coil is
   (a) 1.2V (b) 1.3V (c) 1.4V (d) 1.5V ans (c)

11) The AC immunity of QBAT relay is
   (a) 150V AC (b) 80V AC (c) 50V AC (d) 30V AC ans (b)

12) The maximum length of Track circuit permitted with QBAT is
   (a) 720mt (b) 450mts (c) 250mts (d) 200mts ans (a)

13) The maximum permitted excitation of QBAT relay is up to --------- of P.U voltage
   (a) 235% (b) 230% (c) 300% (d) 200% ans (a)

14) Pick up current of QBAT
   (a) 140- 175 ma (b) 130-160m (c) 140-170ma (d) 132- 174 ma ans (a)

15) Pick up current of QTA2 of 20 ohms
   (a) 80-90 ma (b) 90-100ma (c) 100-110ma (d) 110-120ma ans (a)

16) Pick up current of QTA2 of 9ohms
   (a) 80-90 ma (b) 90-100ma (c) 120-140ma (d) 110-120ma ans (c)

17) Pick up voltage of QT2 relay of 4 ohms
(a) 0.3-0.5v (b) 0.5-0.6 v (c) 0.6 -0.7v (d) 1- 2v ans (a)

18) Pick up voltage of QT2 relay of 9 ohms
(a) 4v (b) 3v (c) 1.5v (d) 2v ans (c)

19) Pick up current of QT2 relay of 9 ohms
(a) 100-110ma (b) 103-117ma (c) 110-120ma (d) 117- 112ma ans (b)

20) Maximum excitation of QT2 relay
(a) 200% (b) 250% (c) 300% (d) 350% ans (c)

21) Minimum excitation of QT2 realy
(a) 200% (b) 250% (c) 125% (d) 350% ans (c)

22) Pick up current of QTA2 relay of 20ohms
(a) 80-90ma (b) 80-100ma (c) 90-110ma (d) 110-124ma ans(a)

23) Pick up current of QTA2 relay of 9ohms
(a)80-90ma (b) 80-100ma (c) 120-140ma (d) 110-124ma ans(c)

24) QBAT relay configuration
(a) 2f/1b (b) 2f/2b (c) 4f/2b (d) 4f/4b ans (b)

25) Maximum excitation of QBAT realy
(a) 200% (b) 250% (c) 235% (d) 300% ans (c)

26) The 4 ohms QT2 relay is used for
(a) Longer Track Circuit
(b) Shorter Track Circuit
(c) LC Gate area TC
(d) Loop Line TC ans (a)

27) The purpose for the back contact in track relays
(a) False Feed
(b)Cross protection
(c) For data Logger
(d) No use ans (b)

Chapter-9 : Siemen's Thermo Flasher Unit

1) Siemens Thermo Flasher unit uses --------- metal

a. Steel
b. bronze
c. zinc
d. mercury ans : d

2) Siemens Thermo Flasher unit generates ------- number of flashing impulses per minute

a. 40
b. 30
c. 60
d. 50 ans : c

3) The contacts of Siemens Thermo Flasher unit can carry ------ Amps current @12V

a. 5
b. 6
c. 2
d. 7 ans : b

4) Siemens Thermo Flasher coil has 12V/ ______ V/220V DC or AC supply

a. 24
b. 48
c. 110
d. 60 ans : c

5) Siemens Thermo Flasher has ______ times/ minute frequency.

a. 30
b. 60
c. 120
d. 240

ans: b

6) Siemens Thermo Flasher is used in ______ RRI

a. Siemens
b. British
c. Both
d. None of these ans: a

7) Siemens Thermo Flasher has ______ times/ second frequency.

a. 60
b. 30
c. 120
d. 1 ans: d

8) Siemens Thermo Flasher has ______ shaped glass.

a. V
b. C
c. U

d. O ans: c

9) In Siemens Thermo Flasher Relay Mercury is used as

a. Metal to Short terminals
b. Metal to expand with heat
c. Non-metal to disconnect terminals
d. Liquid Coolant ans: a

10) Siemens Thermo Flasher has input load of ______W @ 12V

a. 3
b. 5
c. 9
d. 20 ans: c

11) Siemens Thermo Flasher has input load of ______W @ 110V

a. 25
b. 20
c. 2
d. 9 ans: b

12) Siemens Thermo Flasher has input load of ______ W @ 220V

a. 25
b. 20
c. 2
d. 9 ans: b

13) Siemens Thermo Flasher unit uses --------- metal

a. Steel
b. bronze
c. zinc
d. mercury ans : d

14) Siemens Thermo Flasher unit generates ------- number of flashing impulses per minute

a. 40
b. 30
c. 60
d. 50 ans : c

15) The contacts of Siemens Thermo Flasher unit can carry ------Amps current @12V

a. 5
b. 6
c. 2
d. 7 ans : b

16) Siemens Thermo Flasher is used in ________ circuit

a. Point indication
b. Route indication
c. HR
d. Axle Counter ans: a

17) Siemens Thermo Flasher is used in _________ circuit

a. Route indication
b. HR
c. Cancellation indication
d. Axle counter ans: c

18) In Siemens Thermo Flasher once the what makes mercury come back to its original position?

a. Force of repulsion
b. Force of attraction
c. Force of Gravitation
d. Force of assumption ans: c

19) In Siemens Thermo Flasher _______ gas is used.

a. Mercury
b. Helium
c. Hydrogen
d. LPG ans: c

20) In Siemens Thermo Flasher filamet is used _________ gas.

a. Expand
b. Contract
c. Evacuate
d. Explode ans : a

21) In Siemens Thermo Flasher _________ closes heating circuit

a. Mercury
b. Hydrogen
c. Iron
d. Copper ans : a

22) In Siemens motorised clockwork timer relay the following is employed

a) co-effecient of linear expansion
b) Isothermic expansion
c) contact actuating mechanism
d) Adiabatic expansion ans (c)

23) Contact Load Capacity of Siemens motorised clockwork timer relay Current on contact:

a) 6A @ 12V, 2A @ 110V & 1A @ 220V.

b) 8A @ 12V, 2A @ 110V & 1A @ 220V

c) 3A @ 12V, 2A @ 110V & 1A @ 220V

d) 5A @ 12V, 2A @ 110V & 1A @ 220V ans (a)

24) Siemens motorised clockwork timer relay has Sleeve terminal for a conductor cross section

a) of 5.5mm^2

b) of 1.5mm^2

c) of 2.5mm^2

d) of 3.5mm^2 ans (c)

25) Motorised Clockwork timer Relays are used in

a) British RRI Installations

b) Siemens RRI Installations

c) British Panel

d) Electromechanical Yards. ans (b)

Chapter-10 : Slow Acting Relays

1) Addition of a capacitor in parallel and a resistance in series to the relay coil makes.

a) it slow to pick up

b) Slow to release.

c) Stick path.

d) For timer circuit. (a)

2) Addition of capacitor and resistance in parallel to the relay coil makes.

(a) it slow to pick up

(b) slow to release.

(c)Not in use.

(d) stick path (c)

3) Addition of a diode in parallel to the relay coil makes.

(a) it slow to release

(b)Slow to pick up

(c) for timer circuit

(d) stick path. (a)

4) The increase in capacitance of the parallel capacitor increases.

(a) The Study Time.

(b) The Drop Away Time of the Relay.

(c) The Pickup Time of the Relay

(d) The Resistance of Path. (c)

5) Slow to pick up Relay is used in ________ circuit.

a. HR
b. TPR
c. TSR
d. AZTR Ans: c

6) Slow to pick up Relay is used in ________ circuit.

a. HR
b. JSLR
c. TPR
d. TR Ans: c

7) Slow to pick up Relay is used in ________ circuit.

a. HR
b. JSLR
c. TPR
d. AZTR Ans: b

8) QSPA1 is slow to ________.

a. Pickup
b. Release
c. Both
d. Conduct Ans:b

9) What is the actual Time lag of DC Shelf type relay with 100 uF capacitor?

a. 100ms

b. 120ms
c. 180ms
d. 300ms Ans: d

10) What is the actual Time lag of Line relay with 250 uF capacitor?
   a. 300ms
   b. 440ms
   c. 100ms
   d. 200ms Ans:b

11) What is the actual time lag of Siemens K50 Relay relay with 100 uF capacitor?
   a. 100ms
   b. 440ms
   c. 200ms
   d. 1000ms Ans:d

12) What is the role of resistor in time lag circuit of a slow acting relay?
   a. Storing Energy
   b. Breaking circuit
   c. Introducing time lag in circuit
   d. Limiting current Ans:d

13) What is the role of capacitor in time lag circuit of a slow acting relay?
   a. Storing Energy
   b. Breaking circuit
   c. Introducing time lag in ciruit
   d. Limiting current ans: a

14) What is the role of diode connected in reverse bias across R1/R2 in time lag circuit of a slow acting relay?
   a. Slow to Pickup
   b. Breaking circuit
   c. Slow to Release
   d. Limiting current ans: a

15) Addition of a diode in parallel to the relay coil makes.
   a) it slow to release
   b) Slow to pick up
   c) for timer circuit
   d) stick path. Ans: a

16) The increase in capacitance of the parallel capacitor increases.
   a) The Steady Time
   b) The Drop Away Time Of The Relay.

c) The Pickup Time Of The Relay

d) The Resistance of Path. Ans: c

17) Slow to pick up Relay is used in ________ circuit.

a. HR
b. TPR
c. TSR
d. None of The above Ans: c

18) Slow to pick up Relay is used in ________ circuit.

a. HR
b. JSLR
c. TPR
d. None of The above Ans: c

19) Slow to pick up Relay is used in ________ circuit.

a. HR
b. JSLR
c. TPR
d. None of The above Ans: b

20) QSPA1 is slow to ________.

a. Pickup
b. Release
c. Both
d. None Ans: b

21) What is the actual Time lag of DC Shelf type relay with 100 uF capacitor?

a. 100ms
b. 120ms
c. 180ms
d. 300ms Ans: d

22) What is the actual Time lag of Line relay with 250 uF capacitor?

a. 300ms
b. 440ms
c. 100ms
d. 200ms Ans: b

23) Addition of a capacitor in parallel and a resistance in series to the relay coil makes.

a) it slow to pick up

b) Slow to release.

c) Stick path.

d) For timer circuit. Ans: a

24) Addition of a capacitor and a resistance in parallel to the relay coil makes.

a) it slow to pick up

b) slow to release.

c) Not in use.

d) stick path Ans: c

25) The increase in capacitance of the parallel capacitor increases.

a) The Steady Time

b) The Drop Away Time Of The Relay.

c) The Pickup Time of The Relay

d) The Resistance of Path. Ans: c

26) The release time lag obtained in Slow to Release Relays with Diode is

a) 150 to 500 milliseconds. b) 250 to 500 milliseconds

c) 350 to 500 milliseconds d) 450 to 500 milliseconds Ans: b

27) The Condenser value for1000ohms ITI make Relay

a) 200 micro-Farads b) 100 micro-Farads

c) 375 micro-Farads d) 250 micro-Farads ans (c)

28) The Condenser value for DC Shelf Type Relay release Time lag

a) 70 micro-Farads b) 100 micro-Farads

c) 80 micro-Farads d) 60 micro-Farads ans (b)

29) The Condenser value for Line Relay

a) 120 micro-Farads b) 250 micro-Farads

c) 100 micro-Farads d) 10 micro-Farads ans (b)

30) The Condenser value forSiemens K-50Relay

a) 100 micro-Farads b) 300 micro-Farads

c) 20 micro-Farads d) 40 micro-Farads ans (a)

31) The Actual Time lag for Slow release Line Relays

a) 440 ms b) 450ms c) 600ms d) 300ms ans(a)

32) The Actual Time lag for Slow release DC Shelf Type Relays

a) 440 ms b) 450ms c) 300ms d) 200ms ans(c)

33) The Actual Time lag for Slow release Siemens K-50 Relays

a) 440 ms b) 1 Second c) 600ms d) 300ms ans(b)

34) The Actual Time lag for Slow to release 1000 ohms ITI make Relays

a) 440 ms b) 450ms c) 560ms d) 300ms ans(c)

Chapter-11 : DC Polar Relay

1) In a DC polar relay if ï ve is applied to R1 and + ve is applied to R2 of the relay coil the arm spring deflects.

   (a) to left

   (b) To Middle.

   (c)To Right

   (d) No Response. (c)

2) In the de-energised condition of the polar relay, the air gap between the arm spring and both side contact pins shall not be less than.

   (a) .5mm

   (b) 1 mm.

(c) 2.5mm.

(d) 1.5 mm (d)

3) The AC immunity value of DC polar relay is

(a) 15 V AC

(b) 10V AC

(c) 20 V AC

(d) 18 V AC (b)

4) The coil resistance of DC polar relay is.

(a) 77 ohms

(b) 50 ohms

(c) 65 ohms

(d) 40 ohms (a)

5) The contact resistance of DC polar relay with 10% excess of PU voltage shall be.

(a) 0.52 ohms

(b) 0.25 ohms

(c) 0.65 ohms

(d) 0.70 ohms (b)

6) The pick up value of DC POLAR relay

(a) 19 ma (b) 17ma (c) 14ma (d) 15 ma ans (b)

7) The rated pick value of DC POLAR relay

(a) 19 ma (b) 17ma (c) 21ma (d) 15 ma ans (c)

8) The AC immunity value of DC polar relay is

(a) 15 V AC (b) 10 V AC (c) 20 V AC (d) 25 V AC ans(b)

9) The coil resistance of DC polar relay is ----ohms

(a) 70 (b) 80 (c) 77 (d) 74 ans(c)

10) The contact resistance of DC polar relay with 10% excess of PU voltage shall be

(a) 0.52 ohms (b) 0.25 ohms (c) 0.35 ohm s (d) 0.15 ohms ans (b)

11) Permitted over energisation of DC POLAR relay

(a) 17 ma (b) 21ma (c) 25 ma (d) 30ma ans (c)

12) Drop away value of DC polar real not less than -------

(a) 50% (b) 40% (c) 60% (d) 70% ans (a)

13) Current carrying capacity of DC POLAR realy

(a) 2A (b) 3A (c) 1A (d) 4A ans (c)

14) Specification of DC Polar Realy Spec No.

(a) S31-79 (b) S31-80 (c) S31-81 (d) S31-82 ans (b)

15) When the electromagnet coil is energized with normal polarity, say +ve on R1 and -ve on R2, the south pole at the free end of the strap is attracted towards

a) the north pole of electromagnet to move to the left.

b) the south pole of electromagnet to move to the left.

c) the north pole of electromagnet to move to the right.

d) the north pole of electromagnet to move to the centre. ans(a)

16) When -ve polarity supply is connected to the coil, +ve on R2 and -ve on R1, the south pole of the strap is attracted towards

a) the north pole of electromagnet on the right

b) the north pole of electromagnet on the left

c) the north pole of electromagnet on the centre

d) the north pole of electromagnet on upward direction ans (a)

17) Drop away value of Polarised Relay shall

a) Not be less than 60% of pick up value.

b) Not be less than 50% of pick up value

c) Not be less than 70% of pick up value

d) Not be less than 80% of pick up value ans (b)

Chapter-12 : Signalling Cables

1) 1mm dia copper single strand indoor cables are used for.

(a) Point Operation Circuit

(b) Axle counter

(c) LC Gate Circuit

(d) Pannel Operation (a)

2) 0.6 mm dia copper single strand indoor cables are used for.

(a) Signal Lamp Circuit

(b) Point Operation Circuit

(c) Axle counter

(d) LC Gate Circuit (a)

3) For relay ____ mm dia. circuit indoor cables are used

(a) 0.8

(b) 0.5

(c) 0.6

(d) 0.2 (c)

4) Outdoor signalling cables are available with maximum.

(a) 40 cores

(b) 30 cores

(c) 60 cores

(d) 50 cores (b)

5) The main cables shall ordinarily be PVC insulated screened and armoured cable to I.R.S. specification No. is

(a) S.35/1970

(b) S.46/1970

(c) S.30/1970

(d) S.40/1970 (a)

6) The tail cables shall be P.V.C. cables to Specification No.

(a) IRS S.46

(b) IRS S.35

(c) IRS S.50

(d) IRS S.63 (d)

7) Power cables laid by Signal & Telecommunication Department for carrying power supply up to 440 volts

(a) 230 Volts

(b) 110 Volts

(c) 440 Volts

(d) 120 Volts (c)

8) Screened Cable screening factor is

(a) 0.4

(b) 0.2

(c) 0.3

(d) 0.5 ans (a)

9) Unscreened cable IRS specification

(a) S-63/07

(b) S-67/07

(c) S-45/07

(d) S-56/07 ans (a)

10) According to colour code, Indoor cable Red coloured conductor can be numbered as

a) 1

b) 2

c) 3

d) 4 ans (b)

11) According to colour code, Indoor cable Brown coloured conductor can be numbered as

a) 6

b) 7

c) 5

d) 8 ans (c)

12) According to colour code, Indoor cable Pink coloured conductor can be numbered as

a) 8

b) 9

c) 7

d) 5 ans (b)

13) According to colour code, Indoor cable White coloured conductor can be numbered as

a) 4

b) 8

c) 2

d) 10 ans (b)

14) According to colour code, Indoor cable Yellow coloured conductor can be numbered as

a) 5

b) 7

c) 6

d) 2 ans (b)

15) According to colour code, Indoor cable Grey coloured conductor can be numbered as

a) 1

b) 2

c) 3

d) 4 ans (c)

16) According to colour code, Indoor cable Black coloured conductor can be numbered as

a) 6

b) 5

c) 4

d) 3 ans (a)

17) According to colour code, Indoor cable Blue coloured conductor can be numbered as

a) 10

b) 1

c) 2

d) 3

18) According to colour code, Indoor cable Green coloured conductor can be numbered as

a) 2

b) 6

c) 4

d) 8 ans (c)

19) According to colour code, Indoor cable Violet coloured conductor can be numbered as

a) 6

b) 8

c) 4

d) 10 ans (d)

20) For Q-Series relay wiring, flexible loose wire used is of

a) 14 strand 0.2mm.dia

b) 18 strand 0.2mm.dia

c) 16 strand 0.2mm.dia

d) 20 strand 0.2mm.dia ans (c)

Objective Questions

Chapter 1: Lever Locks and Circuit Controllers

1. In Electro-mechanical installations functions are operated by _________.
   a) Mechanical lever
   b) Electrical knob
   c) Electrical switch
   d) SM slot   Ans :A

2. Since the transmission medium is cable In Electro-mechanical installations any disconnection in cables leads function may go ________ with the lever
   a) with in correspondence
   b) out of correspondence
   c) correspondence course
   d) both a & c   Ans :B

3. Electrical lever lock are provided on mechanical lever to avoid _______,
   a) with in correspondence
   b) out of correspondence
   c) correspondence course
   d) both a & c   Ans :B

4. Electro-mechanical installations means
   a) mechanical control upon Electrical levers
   b) Electrical control upon mechanical levers
   c) Electrical control upon electrical levers
   d) mechanical control upon mechanical levers   Ans :B

5. Electrical locks are required on the mechanical levers at various positions in order to synchronise lever positions with ___________ at site
   a) Improper function
   b) Mixed function
   c) Un even function
   d) concerned function   Ans :D

6. ________ is used where an electrical control on a mechanical lever is provided.
   a) Electric Point lock
   b) Electric signal lock
   c) Electric lever lock
   d) Electric lockbar   Ans: C

7. Lever cannot be operated till the lever lock coil is ______

a) De- energized

b) Shorted

c) Looped

d) Energized Ans :D

8. The force drop pins/nibs are provided to prevent _________

a) EMF

b) Back EMF

c) residual magnetism

d) electro magnetism Ans :C

9. lock pawl is positively pushed inside the locking notch before every unlocking operation, a mechanical arrangement called _____ is provided for this purpose

a) Force drop

b) Back drop

c) Economiser contact

d) Circuit control contact Ans :A

10. The force drop pins/nibs are riveted on _________ side of lever plunger/ slide.

a) Front

b) Top

c) approach

d) back Ans :D

11. The force drop pins/nibs force the lock pawl to drop into the locking notch through its __________ extension in IRS LLCC

a) Square shaped

b) Rectangle shaped

c) Triangle shaped

d) bevel shaped Ans :D

12. Economiser contact makes in ___________ position of the lever

a) between B and D positions

b) between A and E positions

c) between R and E positions

d) between N and R positions Ans :B

13. Economiser contact remains disconnected in ______ & _______ position of the lever

a) Normal & Reverse

b) A & D

c) B & E

d) Center Ans: A

14. Economiser contact connects supply to _____ proving other required conditions after initiation.

a) Armature
b) Push away spring
c) lock coil
d) lock pawl Ans: C

15. In absence of "Economiser contact" the same purpose is served by ____ of circuit controller
a) RE band
b) AD band
c) AE band
d) BD band Ans: C

16. AE band of circuit controller can also be used as ___________
a) Economiser contact
b) Force drop contact
c) Back drop contact
d) Relay drop contact Ans: A

17. Economiser contact ______the power consumption
a) waste
b) drains
c) leaks
d) economizes Ans: D

18. Indication Locking is provided on ________ position of point lever slide
a) óAôand óDô
b) óBôand óDô
c) óBôand óEô
d) óNôand óRô Ans: B

19. _________Locking is provided on óBôand óDôposition of point lever slide
a) Track
b) Dead approach
c) Indication
d) Back Ans: C

20. Indication Locking is provided on __position for signals lever slide
a) óBô
b) Dô
c) óEô
d) óNô Ans: A

21. ________Locking is provided on óBôposition for signals lever slide
a) Track
b) Dead approach

c) Indication

d) Back Ans: C

22. Track Locking is provided on _______ position of point lever slide.

a) ó Aô and ó Dô

b) ó Aô and ó Eô

c) ó Bô and ó Dô

d) ó Bô and ó Eô Ans: B

23. if the signal is not operated to OFF position, then the failure is on _______

a) unsafe

b) dangers

c) leads to accident

d) safe side only Ans: D

24. on signal slide, track locking at ô A/Eô, indication locking at ó D/Bô position are ________

a) required

b) necessary

c) not required

d) compulsory Ans: C

25. The indication locking at ó Bô position is _______to ensure that signal has been put back to ON position.

a) Required

b) not necessary

c) not required

d) not compulsory Ans: A

26. Tracking locking ensures that point zone is ______vehicles or not.

a) Occupied by

b) clear of

c) both a & b

d) clear of road traffic Ans: C

27. _____ types of Lever Lock and Circuit Controller are available over Indian railways

a) 1

b) 2

c) 3

d) 4 Ans: D

28. SGE lever lock and circuit controller is used in _______lever frame installation.

a) Rod run

b) Double wire

c) single wire

d) electrical wire Ans: C

29. __________ can be mounted in both positions i.e., vertical position and horizontal position.
    a) I.R.S Lever Lock and Circuit Controller
    b) Saxby and Farmer Lever Lock and Circuit Controller
    c) S.G.E Lever Lock and Circuit Controller
    d) T2 Lever Lock and Circuit Controller Ans: C

30. SGE lever lock when mounted horizontally, the counter weight has to be ____to avoid unsafe side condition
    a) Removed
    b) necessary
    c) not removed
    d) compulsory Ans: A

31. In vertical position mounting, the counter weight has to _____ to avoid unsafe side condition.
    a) Removed
    b) not be necessary
    c) not be removed
    d) not be compulsory Ans: A

32. Siemens General Electric Lever Lock and Circuit Controller has two coils each of __Ohms resistance
    a) 5
    b) 6
    c) 7
    d) 6.25 Ans: D

33. two coils are connected in_____ the lock coil operates on 12 VDC.
    a) Parallel
    b) Series
    c) Both a & b
    d) Perpendicular Ans: B

34. 2 coil connected in ______ the lever lock operates on 110 VAC
    a) Parallel
    b) Series
    c) Both a & b
    d) Perpendicular Ans: A

35. IRS type Lever Lock and Circuit Controller has only one coil of _________ Ohms resistance
    a) 4
    b) 6
    c) 8
    d) 4.5 Ans: D

36. IRS type Lever Lock and Circuit Controller can be connected to _______
    a) 110V AC
    b) 12V DC
    c) 230V
    d) Both a or b   Ans: D

CHAPTER - 2: ELECTRIC KEY TRANSMITTER

1. When RKT key is in locked condition then _______________ contacts is/are in make condition
    a) 1 & 2, 3 & 4
    b) 3 & 4
    c) 3 & 5

d) A & b Ans:.A

2. When RKT key is out then ________________ contact/s is/are in open condition
   a) 1 & 2
   b) 3 & 4
   c) 3 & 5
   d) All Ans:.D

3. Normal working voltage of RKT is _______________
   a) 3.75 DC volt
   b) 3.75 volt DC
   c) 10 volt DC
   d) 12 volt DC Ans:.A

4. Resistance of the coil RKT is ___________________
   a) 12.5 Ohms
   b) 600 Ohms
   c) 15 Ohms
   d) 22 Ohms Ans:.A

5. IN RKT when key is ôIN & PRESSEDòwhat is the position of the contacts.
   a) All make
   b) All break
   c) 1, 2 & 3, 4 make
   d) 1, 2 & 3, 5 make Ans. D

6. ___________ transmission of key from ASM office or Cabin to the controlled gear at site entails delay
   a) CHEMICAL
   b) Physical
   c) Social
   d) Biological Ans :B

7. The EKT are transferred electrically to avoid delay in_______.
   a) Road traffic
   b) Air traffic
   c) Water traffic
   d) Rail traffic Ans :D

8. EKT is combination of _______ and an electromagnet
   a) P-Type Lock
   b) L-Type Lock
   c) E-Type Lock
   d) G-Type Lock Ans: C

9. EKT is combination of E-Type Lock and an ________
   a) Electromagnet

b) Magnetic power

c) Electrical power

d) Both b or c Ans: A

10. When key is inserted in EKT and turned to RHS then the key get _______inside EKT.

a) Un locked

b) Broken

c) Locked

d) Damaged Ans: C

11. When key is ______in EKT and turned to RHS then the key get locked inside EKT

a) Extracted

b) Taken out

c) Inserted

d) Both b or a Ans: C

12. The locked key can only be released when Electromagnet in EKT is ________

a) De-energized

b) Energized

c) Dropped

d) No supply Ans: B

13. The locked key can only be ______when Electromagnet in EKT is energized.

a) Broken

b) Locked

c) Damaged

d) Released Ans: D

14. EKT is used between

a) L.C. Gate and Station Master/ Cabin

b) Crank handle locking

c) Locally operated siding point

d) Above all Ans: D

15. Inserting of keys other than the required one is prevent by _______

a) Lug

b) Feather

c) Both a & b

d) Tumbler Ans: C

16. The _________ shall get locked in the EKT before the control can be transmitted to the other end EKT

a) Receiving key

b) Transmitting key
c) Reception key
d) Response key Ans: B

17. It shall not be ______ to extract a key once inserted and locked in the EKT
a) Impossible
b) Not possible
c) Possible
d) Both a & b Ans: C

18. It shall not be possible to extract a key once inserted and ______ in the EKT
a) Un locked
b) Broken
c) Locked
d) Damaged Ans: C

19. EKT can be _____ by the electrical control Received from the other end
a) Released
b) Damaged
c) Locked
d) Sealed Ans: A

20. It shall not be possible to release the key by jerks or any other _______means
a) Malfunctioning
b) Cycle spokes
c) Irregular
d) Above all Ans: D

21. When key is placed ______ and turned to RHS then key get locked in EKT
a) Outside EKT
b) Inside EKT
c) Besides EKT
d) Above EKT Ans: B

22. The removal of key from EKT is prevented by locking the movement of ______
a) Tumblers
b) Wards
c) Lug
d) Feather Ans: A

23. The EKT coil has ___ no: of magnet poles
a) 5
b) 4
c) 3

d) 2 Ans: D

24. The EKT coil has _______ & _______ poles
    a) Subsidiary & Auxiliary
    b) Main & advance
    c) Main and Auxiliary
    d) Main & preliminary Ans: C

25. EKT consists of ______numbers of finger contacts
    a) 2
    b) 3
    c) 4
    d) 5 Ans :D

26. Finger contacts are _______ with each other
    a) Conducts
    b) Insulated
    c) Connects
    d) Makes Ans: B

27. One set on the ______ of drum assembly contain contact spring no: 1 & 2
    a) RIGHT hand side
    b) Top hand side
    c) Left hand side
    d) Bottom hand side Ans :C

28. The set of contact springs no:3,4 and 5 are on the _____of drum assembly
    a) RIGHT hand side
    b) Top hand side
    c) Left hand side
    d) Bottom hand side Ans :A

29. Quick Return Gear help to force the drum assembly back to its _____ position.
    a) Reverse
    b) Normal
    c) Center
    d) Extreme Ans: B

30. _____ numbers of brass tumblers control the movement of key inside the EKT
    a) 6
    b) 5
    c) 4
    d) 3 Ans: D

31. Combination of wards and tumblers ensures that only ______ can be inserted
    a) Wrong key
    b) Improper key
    c) Right key
    d) Damaged key Ans: C

CHAPTER-3: ELECTRIC SIGNAL REVERSER

1. Style ‘B’ reverser coil resistance is.
    a) 400 ohms
    b) 450 ohms
    c) 500 ohms
    d) 600 ohms Ans: d

2. The normal working voltage of Style ‘B’ reverser is.
    a) 10v
    b) 12v
    c) 15v
    d) 20v Ans: a

3. The normal working current of Style ‘B’reverser is.
   a) 10.5ma
   b) 12.5ma
   c) 15ma
   d) 16.5ma Ans: d

4. The core and the armature are to eliminated effect of _________
   a) Magnetism
   b) Pick up
   c) Drop
   d) residual magnetism Ans: d

5. The oil level in the dash pot must be atleast _______ mm above the bottom of the sliding cylinder
   a) 35
   b) 45
   c) 55
   d) 65 Ans: a

6. It is not possible to pull the ____of the signal provided with Reverser to OFF position physically
   a) Arm
   b) Hand
   c) Leg
   d) Both b & c Ans: a

7. It is possible to pull the arm of the signal provided with Reverser to ____ physically
   a) Down position
   b) ON position
   c) OFF position
   d) Center position Ans: c

8. Function of dash pot provided with the sliding cylinder in Style ‘B’reverser is _______
   a) Shock absorber
   b) Prevent breakage of spectacles
   c) Smooth stoppage of signal arm
   d) Above all Ans: d

9. Function of dash pot provided with the sliding cylinder in Style ‘B’reverser is ________
   a) Shock absorber
   b) Stoke absorber
   c) Stroke loss
   d) Both b & c Ans: a

10. The Reverser are inter convertible _______ to _____
    a) L-Q. & CLS

b) CLS & U-Q

c) L-Q. & U-Q

d) CLS & LED Ans :c

11. Style ôBôreverser establish an electrical control over the________.

a) CLS

b) semaphore signal

c) LED signal

d) Position light signal Ans: b

12. ____ number of moveable levers are available in Style ôBôreverser

a) 5

b) 4

c) 3

d) 2 Ans: d

13. ____and operating crank are coupled together by coupling lever in Style ôBôreverser

a) Spectacle crank

b) Operating crank

c) Coupling crank

d) Direct lever Ans: A

14. Spectacle crank and ____ are coupled together by coupling lever in Style ôBôreverser

a) Spectacle crank

b) Operating crank

c) Coupling crank

d) Direct lever Ans: B

15. Spectacle crank and operating crank are coupled together by ____in Style ôBôreverser

a) Spectacle lever

b) Operating lever

c) Coupling lever

d) Direct lever Ans: C

16. ______ crank and _____ levers are connected rigidly with each other

a) Spectacle

b) Operating

c) Coupling

d) Direct Ans A

17. ___crank and _______ levers are connected rigidly with each other

a) Spectacle

b) Operating

c) Coupling

d) Direct lever Ans: B

18. The core and armature are laminated to overcome the effect of _______

a) battery currents

b) direct currents

c) eddy currents

d) alternate currents Ans: C

19. ______crank in rear is connected with the Spectacle lever

a) Spectacle

b) Operating

c) Coupling

d) Direct lever Ans: A

20. ______crank is connected in rear with the operating lever

a) Spectacle

b) Operating

c) Coupling

d) Direct lever Ans: B

21. _____ mm clearance is required between lock pawl and sliding bar

a) 1

b) 2

c) 3

d) 4 Ans :A

22. If electromagnet is not energized then signal arm cannot be taken to ________ position

a) ON

b) OFF

c) Auto

d) Both a & c Ans: B

23. The R1 and R2 of electromagnet coil to be interchanged ____________ to nullify residual magnetisum

a) Monthly

b) Fortnightly

c) Quarterly

d) Half yearly Ans: B

24. The Armature pick up gives support to _________ lever

a) Spectacle

b) Operating

c) Supporting

d) Direct lever Ans: C

25. The ___of electromagnet coil to be interchanged Fortnightly to nullify residual magnetism

a) Sliding bar

b) R1 and R2

c) core

d) Armature Ans: B

CHAPTER- 4: INTER CABIN SLOTTING

1. When a Signal gear is controlled by more than one agencies with the help of slots is called as ______________
   a) Inter cabin slotting
   b) Starter signaling
   c) Advance starter signaling
   d) Shunt signaling — Ans: A

2. It should not be possible to take ________ a signal, which is slotted by one or more agencies, unless the corresponding slots have been received from these agencies.
   a) On
   b) Center
   c) Above
   d) ôôOFFôô — Ans: D

3. ______indication should be provided in the cabin to indicate the receipt of slot.
   a) Smell
   b) Audible
   c) Visual
   d) Taste — Ans: C

4. In case of any emergency it should be possible for any operating or slotting agency to put back the signal arm to _____ position independently.
   a) On
   b) Center
   c) Above
   d) ôôOFFôô — Ans: A

5. Where track circuits are provided, the concerned slot circuits should prove clearance of
   a) BPAC
   b) SSDAC
   c) MSDAC
   d) Track circuit. — Ans: D

6. Where track circuits are provided, the occupation of any of these track circuits should replace the signal to _____ automatically.
   a) On
   b) Center
   c) Above
   d) ôôOFFôô — Ans: A

7. Suitable ______ protections should be provided against any contact fault or cross feed voltage.

a) Cross

b) Over lap

c) Loop

d) Isolation Ans: A

8. An outer signal should be replaced to ôONö when the slot for _____ is withdrawn.

a) FSS

b) LSS

c) Homes Signal

d) Shunt Signal Ans: C

9. When a slotted signal is replaced to ôONö either by withdrawal of slot or actuation of TC by a train, other signals, which are released by the slotted signal should also be replaced to ______ automatically.

a) On

b) Center

c) Above

d) ôOFFö Ans: A

10. These are ___ different methods used to achieve inter-cabin control or slotted signal.

a) 2

b) 3

c) 4

d) 5 Ans: D

11. _________is provided to lock the SMÆs control slides both in normal and reverse positions to prevent unauthorised operation

a) Cabin man slide

b) Gate man slide

c) Station Master slide

d) Points man slide Ans: C

12. A _____ indicator is required for every slotted signal

a) Point

b) Track

c) Slot

d) Gate Ans: C

13. Slot indicator is require to display ____indication at place of operation of slotted signal

a) Smell

b) Audible

c) Visual

d) Taste Ans: C

14. ____ types of indicators are used for slot indication

a) 5

b) 4

c) 3

d) 6 Ans: C

15. Disc type, Banner type and Luminous type indicators are used for ________.

a) Slot indication

b) CLS

c) LED signals

d) Both b & c Ans: A

16. Resistance of Disc and Banner type indicator coil is _______ q

a) 2000

b) 1000

c) 3000

d) 1200 Ans: B

17. Disc and Banner type indicators are _______to the polarity

a) Sensitive

b) Not sensitive

c) Highly sensitive

d) Sensodent Ans: B

18. Nominal working voltage of Disc and Banner type indicators are ____ V DC

a) 13

b) 10

c) 12

d) 15 Ans: C

19. Luminous indicators are provided with ______ (12V/4W) lamps

a) SL-35

b) SL-21

c) SL-5

d) SL-18 Ans: C

20. YSR means _______ relay

a) Yellow signal

b) Slot stick

c) Slot signal

d) Signal stick Ans: B

21. Normal position of YSR is _____

a) drop

b) latched

c) de-latched

d) pick up Ans: D

22. ______used to achieve one slot one train principle.
    a) KSR
    b) KTR
    c) YSR
    d) CSR Ans: C

23. SMYSR is controlled by all___ bands of concerned station master control slides.
    a) Reverse
    b) Normal
    c) AE
    d) BD Ans: B

24. Normal position of SM YSR is ______.
    a) drop
    b) latched
    c) de-latched
    d) pick up Ans: D

25. Normal position of YR is ______
    a) drop
    b) latched
    c) de-latched
    d) pick up Ans: A

26. _____ is controlled by YSR and reverse bands of concerned Slot Lever/ SM slide.
    a) KSR
    b) YR
    c) YSR
    d) CSR Ans: B

CHAPTER – 5: ELECTRIC LIFTING BARRIER

1. Specification of EOLB with hand generator RDSO/SPN/_____
    a) 180/2000
    b) 180/2015
    c) 180/2010

d) 180/2005

Ans :D

2. Specification of EOLB without hand generator IRS ï SPEC. _______

a) S- 41/70

b) S- 41/80

c) S- 41/90

d) S- 41/60

Ans :A

3. Level crossing gates are classified as _______class

a) Special, A,

b) B, C

c) C & D

d) Both a,b & c

Ans :D

4. Electric lifting barrier provides ______to avoid physical strain on gate man.

a) Easy operation

b) Difficult operation

c) Tuff operation

d) Feather touch operation

Ans :A

5. In EOLB Crank handle facilitate _______of gate in case of power or hand generator failure

a) Difficult operation

b) Tuff operation

c) manual operation

d) Feather touch operation

Ans :C

6. in EOLB Both barriers have to be cranked ______as they are not mechanically linked.

a) Combinedly

b) together

c) at a time

d) Separately

Ans :D

7. The time of operation in EOLB is only_____.

a) 20 sec

b) 10 sec

c) 30 sec

d) 40 sec

Ans :B

8. Maximum length of a barrier in EOLB is _______feet
   a) 52
   b) 62
   c) 32
   d) 42

Ans : C

9. Maximum length of a barrier in EOLB is _______meter
   a) 9.76
   b) 10.76
   c) 11.76
   d) 12.76

Ans : A

10. Boom Segments are bolted together which facilitate easy replacement in case of damage to barrier by road vehicles, hence break down time can be ______
    a) increased
    b) delayed
    c) reduced
    d) more

ans C

11. Feasibility of remote operation in conjunction with ______
    a) Pen camera
    b) close circuit TV
    c) mobile camera
    d) spy camera

ans : B

12. In EOLB the length of barrier is up to 32 ft is available in______
    a) 5 pieces
    b) 6 pieces
    c) 4 pieces
    d) 8 pieces.

Ans :C

13. In EOLB the length of barrier is up to 32 ft and each piece is ____feet length.
    a) 9
    b) 8
    c) 7
    d) 6

Ans :B

14. M.S. counter weights are fixed in _____ for balancing of barrier on balance channel

a) fixed holes
b) curved holes
c) slotted holes
d) grouped holes

Ans : C

15. Red color boom light is fixed in the centre of boom facing towards ____
    a) Road
    b) Rail
    c) Driver
    d) Guard

Ans :A

16. The height of the boom from road level shall not be more than ____mm
    a) 2000
    b) 3000
    c) 4000
    d) 1000

Ans: D

17. The height of the boom from the rail level shall be ______
    a) 0.6 m to 1.0 m
    b) 0.8 m to 1.0 m
    c) 0.8 m to 0.4 m
    d) 0.8 m to 6.0 m

Ans :B

18. Fringes, if provided, shall be clear of road surface by not more than cm. When the boom is in the horizontal position
    a) 45
    b) 35
    c) 15
    d) 25

Ans :C

19. Red disc having red reflector buttons shall be provided at the centre of the barrier with a diameter of _______ facing the road traffic.
    a) 800 mm
    b) 400 mm
    c) 1000 mm
    d) 600 mm

Ans : D

20. The raised or open position of the lifting barrier shall be within ____from the horizontal
    a) 90 degrees to 85degrees

b) 90 degrees to 70degrees
c) 80 degrees to 85degrees
d) 90 degrees to 70degrees

Ans : C

21. The lowered or closed position of the lifting barrier shall be within ____from the horizontal
    a) 10degrees
    b) 20degrees
    c) 15degrees
    d) 25degrees

Ans : A

22. The boom shall be painted / pasted with radium sticker alternately with 300 mm Bands of ________
    a) white and yellow
    b) black and red
    c) red and yellow
    d) black and yellow

ans :D

23. In EOLB, in case of failure of power supply, the barrier shall ____.
    a) Assume the open position
    b) Assume the close position
    c) remain in the position last assumed
    d) fall on the public

ans :C

24. Insertion of ______shall disconnect the power supply to the motor
    a) Crank handle
    b) Gate man key
    c) Hand
    d) Both b & c

Ans : A

25. Power rating of EOLB is _______ watts for DC model
    a) 120
    b) 220
    c) 320
    d) 420

Ans : A

26. Power rating of EOLB is _______ watts for AC model
    a) 350
    b) 450
    c) 550

d) 250

Ans : D

27. Audible and visual warning arrangements for the road traffic shall start operating _______ before operation of the barrier

a) 10 to 15 seconds

b) 15 to 20 seconds

c) 20 to 25 seconds

d) 6 to 8 seconds

Ans: D

28. The bell warning shall operate with a clear ringing sound and shall be audible for a distance of not less than _____

a) 600 metres

b) 900 metres

c) 300 metres

d) 500 metres

Ans: C

29. The visual warning arrangement shall consist of a road signal of the colour light signal type and the range of visibility shall not be less than ______

a) 180m

b) 300m

c) 400m

d) 500m

Ans: A

30. EOLB operates with ______ voltage

a) 24 VDC

b) 110 VDC

c) 110 VAC

d) All a, b & c

Ans : D

31. The RPM DC Permanent Magnet motor Motor is _________

a) 1300

b) 1400

c) 1500

d) 1600

Ans: C

32. _____operation of EOLB which improved the service condition of gate man.

a) mindless

b) Effortless

c) senseless

d) manner less

ans :B

33. The fringes if connected shall be painted / pasted with radium sticker alternately with 300 mm Bands of __________ colour

a) white and yellow

b) black and red

c) red and yellow

d) black and yellow

ans :D

34. Lifting barrier shall have _____booms, one across the road on either side of the track operated by independent mechanism.

a) Three number

b) Two number

c) Five number

d) Six number

Ans : B

35. limit switch are actuated by _____Cams.

a) carbon66

b) Nylon77

c) Nylon66

d) Sodium 66

Ans :C

36. Cams are adjustable for full ______ deg for accurate adjustment of make/ break angle

a) 360

b) 260

c) 160

d) 60

Ans : A

37. limit switch should have

a) Top Roller Type

b) Highly Durable

c) Both a & b

d) Low quality

Ans : C

38. Nylon66 cams fixed on the boom shaft actuate the ______switches.

a) relay

b) Limit

c) router

d) contact

Ans : B

39. Nylon66 cams fixed on the _______ shaft actuate the limit switches
    a) Gear shaft
    b) motor shaft
    c) boom shaft
    d) friction clutch shaft

ans : C

40. LIMIT SWITCHES provided in HEDZI EOLB are _________
    a) LS1 & LS2
    b) LS3 & LS4
    c) LS5 & LS6 (Crank handle cut out contact)
    d) ALL A,B & C

Ans : D

41. _____ limit switch control feed to the motor while closing the gate
    a) LS1
    b) LS2
    c) LS3
    d) LS4

Ans : A

42. _____ limit switch control feed to the motor while opening the gate
    a) LS1
    b) LS2
    c) LS3
    d) LS4

Ans : B

43. _____ limit switch control the snubbing circuit to slow down the motor
    a) LS1
    b) LS2
    c) LS3
    d) LS4

Ans : C

44. _____ limit switch control the indications/relays in the fully open & closed positions of gate
    a) LS1 & LS2
    b) LS1 & LS3
    c) LS2 & LS3
    d) LS4 & LS5

Ans :D

45. ____is to be adjusted such that its N-O Contact just breaks in the fully closed position of barrier
    a) LS1
    b) LS2
    c) LS3
    d) LS4

Ans : A

46. ____ is to be adjusted such that its Nï O contact just breaks in the fully open position of barrier
    a) LS1
    b) LS2
    c) LS3
    d) LS4

Ans : B

47. ______ is to be adjusted such that its N-O contact just makes at about 20 ï 30 deg to horizontal
    a) LS1
    b) LS2
    c) LS3
    d) LS4

Ans : C

48. ______are to be adjusted such that itõs N-O contact just makes in the fully closed position of barrier
    a) LS1 & LS2
    b) LS1 & LS3
    c) LS2 & LS3
    d) LS4 & LS5

Ans :D

49. ________ provides overload protection to motor in EOLB
    a) Friction clutch
    b) Limit switch
    c) Crank handle
    d) Both b & c

Ans : A

50. The friction clutch and the motor are connected by a ______
    a) Normal Belt.
    b) Italian Belt.
    c) Timing Belt.
    d) Leather Belt.

Ans : C

51. Solenoid is an Electromagnet and designed to work on ______ voltage

a) 24 volts DC
b) 110 volts Ac
c) 230 volts AC
d) Both a & c

Ans: D

52. _________is used to unlock the boom when gate is to be open in EOLB
    a) Limit switch
    b) Solenoid
    c) Read switch
    d) Both a or c

Ans : B

53. If OPEN/ CLOSE push button is release, the Barriers _____ in that position.
    a) proceed
    b) run over
    c) Stop
    d) collapse

Ans : C

54. By Selecting Auto mode on Auto/ manual Selector switch in hedz EOLB operates with _____
    a) crank handle
    b) hand generator
    c) power supply
    d) JCB

Ans : C

55. By Selecting Manual mode on Auto/ manual Selector switch in hedz EOLB operates with _____
    a) crank handle
    b) hand generator
    c) power supply
    d) JCB

Ans : B

56. To open the EOLB ___ button is to be pressed until the gate assumes more than 85 degree
    a) Open
    b) Close
    c) Slot
    d) Signal

Ans :A

57. To close the EOLB ___ button is to be pressed until the gate assumes less than 10 degree
    a) Open

b) Close

c) Slot

d) Signal

Ans :B

58. Individual Barrier Operation facility is provided in _______ gate

a) EOLB

b) Mechanical

c) Swing type

d) Both a & c

Ans C

59. In case both power and hand generator operation fails then gate can be operated by _______ one by one

a) crank handle

b) hand generator

c) power supply

d) JCB

Ans:A

60. In case both power and ________operation fails then gate can be operated by crank handle one by one

a) crank handle

b) hand generator

c) power supply

d) JCB

Ans:B

61. In case both ______ and hand generator operation fails then gate can be operated by crank handle one by one

a) crank handle

b) hand generator

c) power supply

d) JCB

Ans:C

62. Rotation of crank handle in ______direction for closing of boom in EOLB

a) Anti clockwise

b) clockwise

c) positive

d) negative

ans : B

63. Rotation of crank handle in _____ direction for opening of boom in EOLB

a) Anti clockwise

b) clockwise

c) positive

d) negative

ans : A

64. Rotation of ________ in clockwise direction for closing of boom in EOLB
    a) crank handle
    b) toggle switch
    c) knob
    d) limit switch

ans:A

65. Rotation of _____ in Anti clockwise direction for opening of boom in EOLB
    a) toggle switch
    b) knob
    c) crank handle
    d) limit switch

ans:C

66. ______ is used for Smooth stop at the end of the closed position is achieved
    a) Snubbing Resistor
    b) Snubbing condenser
    c) Snubbing diode
    d) Snubbing voltage

Ans:A

67. Snubbing Resistor operates with the help of ___ limiting switch.
    a) LS1
    b) LS2
    c) LS3
    d) LS4

Ans :C

68. Use gear oil ______ or equivalent. Qty. 1.5 litres in each barrier & 0.3 Litres in each hand generator gear box in EOLB.
    a) SAE 30
    b) SAE 50
    c) SAE 60
    d) SAE 90

Ans : D

CHAPTER-1 : Electric Point and Lock Detector (IRS Type)

1) When Electrical Point Detector(EPD) is fixed on double slip then Detector slides used are (d)
a) Detector slid C &D
b) Detector slid A & B
c) Detector slid C,D & lock slid A
d) a,b

2) In Electrical Point Detector(EPD) , use of Detector slide óCôshall be connected to (a)
a) Nearest switch rail
b) farthest switch rail
c) Any one switch rail
d) FPL

3) In Electrical Point Detector(EPD), movement of Lock slide (óAô& óBô) (a)
a) 32 MM
b) 10 MM
c) 42MM
d) 0 MM

4) In Electrical Point Detector(EPD), movement of Detector slides (óCô& óDô) in case of BG (a)
a) 115 MM
b) 100 MM
c) 143 MM
d) 220 MM

5) In Electrical Point Detector(EPD), Total number of contacts (ódetection & óshuntô) (d)
a) 10 nos
b) 06 nos
c) 12 nos
d) 08 nos

6) In Electrical Point Detector(EPD), Total number of contacts (ódetection & óshuntô) (d)
a) 10 nos
b) 06 nos
c) 12 nos
d) 08 nos

7) In Electrical Point Detector(EPD), Types of Shunt contacts are (c)
a) Nsh
b) Rsh
c) Nsh & Rsh
d) Nd & Rd

8) In Electrical Point Detector(EPD), Total number of Shunts contacts (d)
a) 04
b) 06
c) 08
d) 02
9) Electrical Point Detector(EPD) is fixed beween sleeper number __& ___ from SRJ (c)
a) 3&4
b) 1&2

c) 2&3
d) 5&6

10) Electrical Point Detector(EPD) Detection relay works on power supply (c)
a) 24 VDC
b) 60 VDC
c) 24 & 60 VDC
d) 110 V AC

11) In case of Electrical Point Detector(EPD), Point set in Normal and locked then which contacts will be made (c)
a) Nsh & Nd
b) Nsh &Rd
c) Rsh & Nd
d) Rsh & Rd

12) In case of Electrical Point Detector(EPD), Point set in Reverse and locked then which contacts will be made (b)
a) Nsh & Nd
b) Nsh &Rd
c) Rsh & Nd
d) Rsh & Rd
ANSWER- B.

13) In case of Electrical Point Detector(EPD), Point set in Reverse and un-locked then which contacts will be made (c)
a) Nsh & Nd
b) Nsh &Rd
c) Rsh & Nsh
d) Rsh & Rd

14) In case of Electrical Point Detector(EPD), Point set in Normal and un-locked then which contacts will be made (c)
a) Nsh & Nd
b) Nsh &Rd
c) Rsh & Nsh
d) Rsh & Rd

15)) Electrical Point Detector(EPD) what grade of oil is used to lubricate the slide the rolls and pins (b)
a) IS 1328
b) IS 1628
c) IS 1378
d) IS 1358
.

16) Electrical Point Detector(EPD) : 3.25mm Obstruction test is done at what distance from the toe of the switch (b)
a) 120mm
b) 150mm

c) 170mm
d) 160mm

17) Electrical Point Detector(EPD) : when 3.25mm Obstruction test is done (a)
a) the bridge contact should not make
b) the bridge contact should make
c) the shunt contact remains open
d) the points get locked

CHAPTER-2: Introduction to Power Operation of Points

1) Advantage of power operation of point (d)
a) Quick operation
b) Longer distance
c) throw, lock & dectection at the same operation
d) a,b&c

2) Method of point cross over(A end & B end) is operated by Electric point machine (d)
a) Series method
b) Parallel method
c) Series and Parallel method
d) a or c

3) purpose of Frictiotn in case of Electric point machine (b)
a) limits thorow
b) over load protection for Motor
c) ensures lock
d) slips end after detection makes

4) time consumed for operation in case of Electric point machine (a)
a) 3-5 sec
b) 6-9 sec
c) 0-2 sec
d) 7-10 sec

5) purpose of Gears reduction in case of Electric point machine (a)
a) reduces speed to increase torque
b) over load protection for Motor
c) ensures smooth operation
d) quick operation

6) purpose of Crank handle cut out contacts in case of Electric point machine (b)
a) over load protection for Motor
b) ensures either manual or power operation
c) ensures smooth operation
d) quick operation

CHAPTER-3 :IRS ROTARY TYPE

1) The stroke of a low stroke point machine is (b)
a) 140mm
b) 143mm

c) 200mm
d) 220mm

2) Point is set and lock in normal contacts make. (b)
a) RD&NC
b) RC&ND
c) ND&RD
d) NC&RC

3) Point is set and lock in reverse contacts make. (a)
a) RD&NC
b) RC&ND
c) ND&RD
d) NC&RC

4) SAE30 gear oil is to be poured once in. (b)
a) 3months
b) 6months
c) 7months
d) 9months

5) RPM of the point motor is. (d)
a) 1400
b) 1500
c) 1600
d) 1700

6) Insulation resistance of point motor should be more than. (a)
a) 10 mega ohms
b) 15 mega ohms
c) 20 mega ohms
d) 30 mega ohms

7) AC immunity of the point motor is (b)
a) 130VAC
b) 160VAC
c) 170VAC
d)180VAC

8) The total movement of the drive disc is. (c)
a) 220degree
b) 250degree
c) 270degree
d) 290degree

9) The leading stretcher bar is to be fixed at ____mm from toe (c)

a) 220mm
b) 250mm
c) 470mm
d) 290mm

10) The point motor is fixed on which sleeper (a)
a) 4^{th} & 5^{th} sleeper
b) 5^{th} & 6^{th} sleeper
c) 3^{th} & 4^{th} sleeper
d) 1^{th} & 2^{th} sleeper

11) The IRS point machine is provided with which locking (a)
a) IN & OUT Locking
b) OUT & IN Locking
c) ROTATORY Locking
d) Reverse & Forward Locking

12) IRS point machine: number of teeth available in the main gear rim (a)
a) 92 Nos
b) 82 Nos
c) 72 Nos
d) 52 Nos

13) Various detection contact available in IRS point machine (c)
a) 1/1a,2/2a 5/5a,6/6a
b) 1/1a,2/2a 3/3a,4/4a
c) 3/3a,4/4a 7/7a,8/8a
d) 1/1a,3/3a 5/5a,6/6a

14) Snubbing arrangement is provided in IRS point machine (b)
a) electrical Snubbing
b) mechanical Snubbing
c) No Snubbing
d) A & B

15) How many dectection and control are available in Siemens point machine (b)
a) 2 Control & 2 Detection contacts
b) 4 Control & 4 Detection contacts
c) 4 Control & 6 Detection contacts
d) 1 Control & 1 Detection contacts

16) During obstruction test of machine operated point with 5mm test piece (d)
a) Point shall not lock
b) friction clutch shall slip
c) Detection contacts shall not make
d) a,b & c

17) Difference between normal working current and obstruction current shall not be more than
a) 0.5 Amps (a)
b) 5 Amps
c) 2.5 Amps
d) 10 Amps

18) power supply to point machine is control at _________ level (d)

a) Circuit
b) Battery
c) machine
d) a & c both

19) Crank handle contacts are provided to simultaneous _______ and ______ operation (d)
a) power
b) manual
c) hydraulic
d) A & B

20) Obstruction current shall not be more than ________ of normal working current (b)
a) 2 times
b) 0.5 times
c) 100 times
d) 4 times

21) IRS point machine: number of teeth available to the motor pinion (a)
a) 12 Nos
b) 18 Nos
c)17 Nos
d) 15 Nos

22) IRS point machine: spring loaded friction clutch consist (c)
a) slip ring
b) compression spring assembly
c) A & B
d) drive disc

CHAPTER-4 : Siemens point machine

1) The opening of the conventional Point machine is (c)
a) 160-170mm
b) 180-190mm
c) 95-115mm
d) 220-225mm

2) The Siemens point machine is fixed with how many bolts (b)

a) 4 nos
b) 2 nos
c) 3 nos
d) 5 nos

3) which of the following bracket is Siemens point machine ground connections are fixed.(a)
a) D backet
b) A backet
c) B backet
d) C backet

4) In Siemens point machine how many greesing nipples are available (b)
a) 4 nos
b) 8 nos
c) 3 nos
d) 5 nos

5) The stroke of Siemens point machine (b)
a) 114 nos
b) 118 nos
c) 143 nos
d) 115 nos

6) Various detection contact available in Siemens point machine (c)
a) 1/1a,2/2a 5/5a,6/6a
b) 1/1a,2/2a 3/3a,4/4a
c) 3/3a,4/4a 7/7a,8/8a
d) 1/1a,3/3a 5/5a,6/6a

7) Snubbing arrangement is provided in Siemens point machine (b)
a) electrical Snubbing
b) mechanical Snubbing
c) No Snubbing
d) A & B

8) How many dectection and control are available in Siemens point machine (b)
a) 2 Control & 2 Detection contacts
b) 4 Control & 4 Detection contacts
c) 4 Control & 6 Detection contacts
d) 1 Control & 1 Detection contacts

9) Siemens point machine: If Point set in Normal and locked then which contacts will be made
a) Nc & Nd (b)
b) Rc & Nd
c) Rc & Nc
d) Rd & Rc

10) Siemens point machine Point set in Reverse and locked then which contacts will be made
a) Nc & Rd (a)
b) RC & Rd
c) Nc & Rc

d) Rd & Nd

11) Siemens point machine Point: If the point is set in Reverse and un-locked then which contacts will be made (a)

a) Nc
b) Nc & Rc
c) RD & ND
d) RC & RD

12) In case of Siemens point machine Point, Point set in Normal and un-locked then which contacts will be made (c)

a) nc
b) Nd &Rd
c) Rc
d) Rc & Rd

13) Siemens point machine: the complete rotation of transmission assembly is just over (a)

a) 270 degree
b) 290 degree
c) 320 degree
d) 340 degree

14) what is the rated voltage of Siemens point machine operation (a)

a) 110 VDC
b) 24 VDC
c) 110 V AC
d) 12 VDC

15) What is the obstruction current of Siemens point machine (a)

a) 1.6 times of working
b) 2.6 times of working
c) 2.2 times of working
d) 2.3 times of working

16) what is the rated current consumption of Siemens point machine (a)

a) 2 Amps
b) 9 Amps
c) 3 Amps
d) 4 Amps

17) Siemens point machine: the spacing between sleeper no 3 & 4 shall be (a)

a) 685mm
b) 985mm
c) 385mm
d) 485mm

18) what is minimum power operating voltage of Siemens point machine (d)

a) 110V DC
b) 24 V DC
c) 12 AC
d) 60 V DC

19) what metal strips are provided between the two point detection slides to avoid the slides getting move together in case of breakage (d)
a) aluminium
b) Gold
c) copper
d) Brass

20) Siemens point machine: the idle strike to be given (a)
a) 25mm
b) 65mm
c) 45mm
d) 33mm

21) Siemens point machine: clearance of the ground connection rods from the bottom of the rail
a) 15mm (d)
b) 65mm
c) 45mm
d) 25mm

22) Siemens point machine: centre line of the point machine shall be what distance from the nearest gauge face of the rail (a)
a) 1050 mm
b) 15665mm
c) 1145mm
d) 1125mm

CHAPTER-5: IRS Clamp type point machine

1) The stroke of a high stroke point machine is (c)
a) 160mm
b) 180mm
c) 200mm
d) 220mm

2) Unlock of the point for clamp type point machine is. (d)
a) 130mm
b) 160mm

c) 100mm
d) 60mm

3) Throw of the point for clamp type point machine is. (c)
a) 130mm
b) 160mm
c) 100mm
d)220mm

4) locking of the point for clamp type point machine is. (b)
a) 130mm
b) 60mm
c) 100mm
d)220mm

5) Switch opening of the point for clamp type point machine is. (b)
a) 130mm
b) 160mm
c) 180mm
d) 220mm

6) J.O.H clearance in clamp type point machine should be more than. (a)
a) 57mm
b) 60mm
c) 80mm
d)100mm

7) SSD of the point for clamp type point machine is. (c)
a) Switch setting device
b) Spring setting device
c) Shunt switch device
d) Switch spring device

8) The Thrust of a low thrust point machine is (b)
a) 400kg
b) 450kg
c) 500kg
d) 550kg
9) The Thrust of a high thrust point machine is (d)
a) 400kg.
b) 500kg.
c) 600kg,
d) 700kg.

10) Due to the 160 mm opening of thick web switch at toe the clearance at junction of rail head is (b)
a) 50mm.
b) 60mm.
c) 70mm,
d) 80mm.

11) A clamp lock that clamps together the closed switch against the (a)
a) stock rail
b) Tongue rail
c) SRJ
d) Fish plate

12) which is not the part of IRS clamp type machine (c)
a) Stopper
b) Insulating plates
c) rubber pad
d) drive lug

13) What is rated voltage of IRS clamp type point machine (a)
a) 110V DC
b) 24 V DC
c) 110V AC
d) 60 V DC

14) What round per minute of the DC series motor used in IRS clamp type machine (a)
a) 1110
b) 1700
c) 1500
d) 1600

15) What is the rated current of IRS clamp type point machine (b)
a) 4.0A to 8.0A
b) 5.3A to 8.5A
c) 3.3A to 8.0A
d) 2.3A to 8.0A

16) What is the operating time of IRS Clamp type Point machine (a)
a) 4 to 5 Second
b) 4 to 10 Second
c) 1 to 2 Second
d) 10 to 12 Second

17) What is the power of DC series motor of IRS clamp point machine (d)
a) 240 Watts
b) 200 Watts
c) 330 Watts
d) 440 Watts

18) What type of gear oil is used for lubrication (d)
a) SGE 30
b) SAE 40
c) SAE 95
d) SAE 30

19) Spring Setting Device(SSD) is provided in between sleepers (a)
a) 13 & 14

b) 15 & 16
c) 11 & 12
d) 17 & 18

20) How many grease gun stroke should be used in each nipple provided to lubricate the bearings (a)
a) 5
b) 3
c) 7
d) 9

Objective Questions

Chapter 1: BLOCK SIGNALING GENERAL

1. Authority to proceed is given to __________ to enter the block section with his train
   a)Guard b)Driver c)SM d) ESM (b)

2. Block over lap in MACLS is (c)
   a)400m b) 120m c) 180M d) 160

3. Certificate of Competency for operating block instrument is valid for ______ years (c)
   a)1 y b) 2y c) 3y d)4 y

4. Bell code for train entering into block section is (c)
   a)1 Bell beat
   b) 2 Bell beats
   c) 3 Bell beats
   d) 4 Bell beats

5. Bell code for Attention (a)
   a)1 Bell Beats
   b) 2 Bell Beats
   c) 3 Bell Beats
   d) 4Bell Beats

6. Bell code for Line clear is (b)
   a)1 Bell Beats
   b) 2 Bell beats
   c) 3 Bell beats
   d) 4 Bell beats

7. Bell code for block section is Clear (d)
   a)1 Bell beats
   b) 2 Bell beats
   c) 3 Bell beats
   d) 4 Bell beats

8. Bell code for Cancellation of Line Clear is (c)
   a) 1Bell beats
   b) 2 Bell Beats
   c) 5 Bell Beats
   d) 4 Bell Beats

9. Bell code Testing of Block Instrument (a)
   a)16 Bell beats
   b) 12 Bell beats
   c) 3 BellBeats
   d) 4 Bell beats

10. Train Signal Register shall be kept by the __________ under his custody (a)
a) SM b) SSE (SIGNAL) c) PWI d) Signal maintainer

11. Block Back is facility of (c)
    a) single line
    b) double line
    c)both a and b

d) neither a nor b

12. Block Back and Block Forward both are facilities of (b)
a) single line
b) double line
c) both a and b
d) new Line

13. Block section is controlled by (c)
a) rear Station SM
b) advance station SM
c) By both or a and b
d) none

14. The distance sufficient to ensure safety is (c)
a) minimum breaking distance
b) block over lap
c)adequate distance
d)none

15. permission to enter the block section is (a)
a) line clear
b)cancellation
c) line close
d) train on line

16. An equipment used for safe running of trains between two adjacent block stations is(b)
a) Point Machine
b) b) Block Instrument
c) c) RRI
d) d) EI

17. Bell code for TOL is (c)
a) 1Bell beat
b) 2 Bell beats
c) 3 Bell Beats
d) 4 Bell beats

18. Block sectionõs jurisdiction (c)
a) LSS to FSS and its overlap
b) FSS to LSS and its overlap
c) Only LSS and its overlap
d) Only LSS to FSS

19. Absolute block working allows (a)
a) Only one train in block
b) Only two trains in block
c) Multiple trains in block
d) No trains in block

20. Private Number is given by (b)
a) sending SM
b) receiving SM
c) Both a and b
d) neither a nor b

21. The permission obtained by block station from a block station in advance for Train to leave the former and proceed towards later (a)

a) Line clear
b) Line close
c) Block forward
d) Block back

22. The portion of the running line between two black stations on to which no running train may enter until Line Clear has been received from the block station at the other end is called (c)
a) Station section
b) Station limit
c) Block section
d) Both a and b

23. The distance sufficient to ensure safety (d)
a) Forward distance
b) Backward distance
c) Both a and b
d) Adequate distance

24. It is the authority given to Loco Pilot of the train , under the system of working. To enter the block section with his train (a)
a) Authority to proceed
b) Authority to Stop
c) Authority not to Proceed
d) Authority to stop and wait

25. Under Absolute Block working system ,block stations are classified as (d)
a) Only A
b) Only A and B
c) Only Band D
d) All A,B and C

Chapter 2 : NEALE'S TOKEN BLOCK INSTRUMENT

1. NTBI is used for (a)
a)Single line
b) Double line
c) auto Territory
d) Both a and b

2. The POH if NT BI is (a)
a) 10 y
b) 7 y
c) 12 y

d) 5 y

3. Number of token configuration of NTBI is (b)
a) 4
b) 5
c) 3
d)2

4. NT Block Instrument is (a)
a) co-operative
b)Non Co-operative
c) Both a and b
d) only b

5. NT Block Instrument can be used in (c)
a) Only in Non-RE
b)Only in RE
c) Both a and b
d) neither a nor b

6. which one of the configurations are not there in NTBI (c)
a) Round
b) rectangular
c) square
d) triangular

7. Token is extracted in ____ Condition (c) a)
LC
b) TCF
c) TGT
d) TOL

8. For NTBI in Non-RE area how number of Line conductors are required (a) a)
1 line wire with eath return
b) 2 line wires with earth return
c)none
d) 4 conductors

9. For NTBI in RE area how number of Line conductors are required (b)
a) 2 conductors
b) 4 conductors
c) 3 conductors
d) 6 conductors

10. NTBI has the capacity of maximum ____ tokens to meet the traffic (c)
a) 34
b) 32
c) 36
d) 38

11. Normally ____ token only are used in a connected pair of instruments. (b)
a) 34
b) 32
c) 36
d) 38

12. Line current of NTBI is (a)
    a) 25 mA
    b) 15 mA
    c)60 mA
    d) 45 mA

13. which one of the configurations are not there in NTBI (c)
    a) Round
    b) rectangular
    c) two sided
    d) triangular

14. which one of the configurations are not there in NTBI (b)
    a) Round
    b) hexagonal
    c) rectangular
    d) triangular

15. which one of the configurations are not there in NTBI (c)
    a) Round
    b) rectangular
    c) cylindrical
    d) triangular

16. which one of the configurations are not there in NTBI (c)
    a) Round
    b) rectangular
    c) triangular
    d) half round

17. voltage required for NTBI is (a)
    a) 12v
    b) b) 14v
    c) c)16 v
    d) d)50
18. Energisation of TGT lock is required when handle of NTBI turn from (c)
    a)LC TO TCF
    b) TCF TO LC
    c) LC TO TGT
    d) TGT TO LC

19. Energisation of TCF lock is required when handle of NTBI turn from (d)
    a)LC TO TCF
    b) TCF TO LC
    c) TGT TO LC
    d) all a,b and c

20. In one complete operation in NTBI how many Number of times does TCF and TGT coils will energise (a)
    a) 3 ,1
    b) 2,2
    c) 3,3
    d) 1,3

21. POH of NTBI is (c)
    a) 7 y

b) b)9 y
c) c)none
d) d)12 y

22. In RE with NTBI 2 resistances are used in circuit with rating (b)
a) 2500Ý
b) b) 5000 Ý
c) c) 4000Ý
d) d) 250Ý

23. authorised operation is ensured by (c)
a) shunt key
b) b) LCB key
c) c) SM key
d) d) Maintainer Key

24. Jerking contact is also known as (a)
a) Interstroke Interrupter
b) b) rest contact
c) c) spring contact
d) d) normal contact

25. No person shall operate the electric block instrument without (b)
a) IRISET certificate
b) certificate of competence
c) certificate of proficiency
d) certificate of clearance

26) Only relay used inside the Neales token block instrument is (a)
a) Polarised Relay
b) ABB relay
c) Q style Relay
d) seimens relay

27) Resistence of polaried relay is (b)
a) 90Ý
b) 77Ý
c) 25Ý
d) 100Ý

28) minimum operating current of Block bell of Neleas token ball instrument is (a)
a) 80mA
b) 20mA
c) 150 mA
d) 100mA

29) resistance of Bell coil of Neales token ball instrument is (a)
a) 25Ý
b) 40Ý
c) 77Ý
d) 100Ý

30) working current of galvo in neales token ball instrument is (b)
a)100mA
b) 15-25mA
c) 60mA
d) 40mA

31) TCF and TGT coils of neales token ball instrument have minimum working voltage (b)

a) 24v
b) 4.5v
c) 60v
d) 75 v

32) TGT and TCF coils of neales token ball instrument have operating current (c)
a) 20mA
b) 60mA
c) 160mA
d)40mA

33) Bottom handle of neales token ball instrument is turned towards TGT when _____ Coil is energised (a)
a) TGT
b) TCF
c) Line clear coil
d) TOL

34) Bottom handle of neales token ball instrument is turned towards TCF when _____ Coil is energised (b)
a) TGT
b) TCF
c) Line clear coil
d) TOL

35) Bottom handle of neales token ball instrument is turned towards TCF to NORMAL when _____ Coil is energised (b)
a) TGT
b) TCF
c) Line clear coil
d) TOL

36) Bottom handle of neales token ball instrument is turned towards TGT to NORMAL when _____ Coil is energised (b)
a) TGT
b) TCF
c) Line clear coil
d) TOL

37) current rating of polarised relay is (c)
a) 77mA
b) 66mA
c) 25mA
d) 45mA

38) In polarised relay the position of the armature when the relay is energies with coil terminal R1 connected to positive and R2 connected to negative terminal of the battery it is called (a)
a) Normal position
b) Reverse position
c) Forward position
d) Backward position

39) In polarised relay the position of the armature when the relay is energies with coil terminal R2 connected to positive and R1 connected to negative terminal of the battery it is called (b)

a) Normal position
b) Reverse position
c) Forward position
d) Backward position

40) In Polarised relay the armature contact clearance between fixed contacts shall not be less than (b)

a) 2.5 mm
b) 3.5mm
c) 1.5mm
d) 10mm

41) polarised relay is (b)

a) 2 positioned relay
b) 3 positioned relay
c) 4 positioned relay
d) 1 positioned relay

42) Arm contact (c)

a) normal contact
b) reverse contact
c) Front and back contacts
d) pick up and drop contacts

43) A stell rod with an electroplated knob passing through the middle of the bottom handle Is (a)

a) Tappet rod/Bell plunger
b) Token selector
c) Inter stroke interrupter
d) Spring clutch assembly

44) The polarity of the current depends on the position of the (c)

a) Token selector
b) Tappet rod
c) Commutator
d) Safety catch

45) which one of the following prevents declutching of commutator shaft from spring clutch shaft (b)

a) jerking contact
b) safety catch
c) Token selector
d) top handle

46) which one of the following determines that from which race token shall be selected to issue out of instrument (d)

a) Safety catch
b) Top handle
c) Bottom handle
d) Token selector

47) A normal polarity instrument can be converted to reverse polarity by reversing the connection of the following (d)

a) Only line battery
b) Only polarised relay
c) Both a and b

d) Needle indicator, polarised relay and line battery

48) TCF lock coil to be enegised to operate bottom handle from (d)
a) only Normal to TCF
b) only TCF to Normal
c) only TGT to normal
d) All a,b and c

49) TGT lock coil to be energised to operate bottom handle from (c)
a) Normal to TCF
b) TCF to Normal
c) Normal to TGT
d) TGT to Normal

50) Normal REST contact is provided in (a)
a) NON- RE Neales token ball instrument
b) RE Neales token ball instrument
c) Both a and b
d) neither a nor b

51) what is purpose of Modifications in RE area (a)
a) To prevent induction
b) To allow induction
c) To reduce induction
d) To increase induction

52) Filter unit using in RE area must be (a)
a) Low pass filter
b) high pass filter
c) medium pass filter
d) Band pass filter

53) condenser used in Filter unit is (c)
a) 2 Terminal
b) 3 Terminal
c) 4 Terminal
d) 6 Terminal

54) Flash voltage of gaseous lightning arrestor in Filter unit (c)
a)60v
b)75v
c)150v
d) 250v

55) Resistance Protective Choke(S1) in filter unit (b)
a) 100Ý
b) 50Ý
c) 20 Ý
d) 10Ý

56) Impedance of Protective choke (S1) in filter unit (a)
a) Z at 50HZ =40,000 ohms
b) Z at 60HZ= 20,000 ohms
c) Z at 30 HZ =30,000 ohms
d) Z at 10 HZ = 10,000ohms

57) In filter unit, the Protective choke (S1) Testing voltage is (c)

a) 100 v
b) 200 v
c) 600 v
d) 500 v

58) Resistance of Protective choke (S2) in filter unit (a)
a) 40 ohms
b) 50 ohms
c) 66 ohms
d)77 ohms

59) Impedance of protective choke (S2) in filter unit (a)
a) Z at 50 HZ=20000
b) Z at 40 HZ=20000
c) Z at 50 HZ=60000
d) Z at 40 HZ=50000

60) Testing voltage of Protective choke(S2) in filter unit (b)
a)40 v
b) 50 v
c) 60 v
d) 77 v

61) Voltage of Lightning arrestor (gaseous type) in filter unit is (c)
a) 300 v
b) 50v
c)150v
d) 75 v

62) Turnout ratio of Isolation transformer (c)
a) 1:100
b) 1:2
c) 1:1
d) 3:1

63) The contact which is not provided in nealeŝ token ball RE instrument (c)
a) contact no.4
b) contact no.3
c) contact no.5
d) contact no.1

64) In Nealeŝ token ball RE block instrument replacement of rest is done by usning (a)
a) BNR and BNPR
b) SR!, SR2
c) ZR1,ZR3
d) PR

65) In Nealeŝ token ball RE block instrument Physical isolation of line conductors are to be ensured, this is achieved by providing (c)
a) SR1,SR2
b) ZR1,ZR2
c) BNR and BNPR
d) PR

66) BXR is the (a)
a) Bell relay
b) TGT relay
c) TCF relay
d) indication relay

67) In Nealeҫs token ball instrument when commutator is normal and Bell plunger is pressed the contacts make (a)
   a) 1,3 and 3,4 contacts
   b) 1,4 and 2,3 contacts
   c) No contacts are made
   d) Only 1,2 contacts are made

68) In Nealeҫs token ball instrument when commutator is reverse and plunger pressed the contacts make are (b)
   a) 1,2 and 3,4 contacts
   b) 1,4 and 2,3 contacts
   c) Only 1,4 contacts are made
   d) Only 3,4 contacts are made

69) The spring contact normally connected to rest contact to connect PR to Line and get disconnected when bell plunger is pressed (c)
   a) Spring 2
   b) Spring 3
   c) Spring 5
   d) Spring 4

70) Number Token races available in Nealeҫs token ball instrument (d)
   a) 5
   b) 2
   c) 3
   d) 4

71) sequence of token selection from the race of Nealeҫs token ball instrument is (b)
   a) Races: 1,2,3,4
   b) Races :3,4,1,2
   c) Races : 2,3,4,1
   d) Races : 3,4,2,1

Chapter 3 : DOUBLE LINE BLOCK INSTRUMENT

1) Double line Block instrument is (a)
   a)Co- operative
   b) Non co-operative
   c) both a and b
   d) neither a nor b

2) All operations of DLBI is performed by (b)
   a) Sending SM
   b) b) Receiving SM
   c) c) Both a and b
   d) d) neither a nor b

3) DLBI has three handle Positions (a)
   a) LINE CLOSE ,TOL,LINE CLEAR
   b) LINE CLOSE, TGT, TCF
   c) LINE CLOSE,TGT,LINE CLEAR
   d) LINE CLOSE ,TCF,LINE CLEAR

4) Line Current of DLBI is (b)
   a) 45 mA
   b) b) 25mA
   c) c) 60 mA

d) d)35mA

5) Line supply DLBI is (c)
a) 25v plus Line drop
b) 45v plus Line drop
c) 12v plus Line drop
d) 75v plus Line drop

6) Super imposition of circuits is called (c)
a) Newton ckt
b) lenz ckt
c) Phantom ckt
d) RE ckt

7) BXR is (a)
a) Bell relay
b) line relay
c) indication relay
d) stick relay

8) DLBI Block Bell Relay coil resistence is (d)
a) 20 Ý
b) 30 Ý
c) 40 Ý
d) 60 Ý

9) IN DLBI commutator handle gets locked when it is (a)
a) Turns from LINE CLEAR to TRAIN ON LINE
b) Turns from LINE CLOSE to LINE CLEAR
c) Turns from LINE CLOSE to TRAIN ON LINE
d) Turns from TRAIN ON LINE TO LINE CLOSE

10) The Resistance of door lock coil is ______ in SGE DLBI (b)
a) 40 ohms
b) 50 ohms
c) 80 ohms
d) 160 ohms

11) Relay /s used for one signal for one train movement in DLBI is
a) SR1,SR2
b) ZR1,ZR2,ZR3
c) LCPR
d) FVTR

12) DLBlock Instrument is (b)
a)TOKEN INSTRUMENT
b) TOKEN LESS
c) PUSH BUTTON TYPE
d) HANDLE LESS

13) Over hauling period of DLBI is (d)
a)10 y
b) 3 y
b) 5 y
d) 7 y

14) DL Block Instrument can be used in (c) a)
RE Only
b) Non RE only
c) Both a and b
d) NEITHER a NOR b

15) Block Releasing relay or sequential proving relays in DLBI (b)
a) SR1,SR2
b) b) ZR1,ZR2,ZR3
c) LCPR, LSS DR
d) 1R,2R,3R

16) Number of conductors required for Non RE Double Line indication circuit is (a)
a) 2 conductors with separate earthing
b) 3 conductors with separate earthing
c) 4 conductors with separate earthing
d) 1 conductor with separate earthing

17) Number of conductors required for RE DLBI is (b)
a) 2 conductors
b) 4 conductors
c) 1conductor
d) 6 conductors

18) Number of conductors required for Bell circuit of DLBI is (d)
a) 3 conductors and earthing
b) 2 conductors and earthing
c) 4 conductors and earthing
d) 1 conductor and earthing

19) In absolute Block working system signals are interlocked with (b)
a) Point machine
b) Block instrument
c) Lock bar
d) Track circuit

20) Train arrival buzzer is activated when ____ relay energised (c)
a) SR1
b) ZR1
c) ZR2
d) ZR3

21) LCPR in DLBI is (c)
a) Fast to pick up
b) Slow to pick up
c) Slow to release
d) Fast to release

22) Armature is apart of ___ DLBI (a)
a) Door lock mechanism
b) Block Bell unit
c) Top indicator
d) Bottom indicator

23) In DLBI Self station operation is shown in (a)
a) Bottom indicator
b) Top indicator
c) Middle indicator
d) Side indicator

24) In DLBI commutator segments are (c)
   a) 3 in number
   b) 2 in number
   c) 4 in number
   d) 5 in number

25) Output of Block bell equipment in Double Line Block Instrument is (b)
   a) 100v ac ,150hz
   b) 60vac ,150hz
   c) 75v ac,150hz
   d) 30v ac,150hz

26) Top indicator refers to (b)
   a) Self station operation
   b) Other end stationҫs operation
   c) Both a and b
   d) Neither a nor b

27) Different types of Double Line Block Instruments are (c)
   a) Push Button, neales token Instrument, FM block
   b) Neales tablet token block, push Button, FM Block
   c) SGE, MODIFIED SGE, IRS
   d) FM instrument, PTJ, Token Ball instrument

28) In Double line SGE Block instrument Bell unit and polarised Relay is provided (b)
   a) Inside the block instrument
   b) Outside the block instrument
   c) Both a and b
   d) Neither a nor b

29) Line voltage of Non RE Double line block instrument is (c)
   a) 44v
   b) 25v
   c)12v
   d) 60v

30) In Double Line Block instrument top indicator is also called as (b)
   a) TCF Indicator
   b) TGT indicator
   c) TOL indicator
   d) TCF and TON indicators

31) In Double Line Block instrument Bottom indicator is also called as (a)
   a) TCF Indicator
   b) TGT indicator
   c) TOL indicator
   d) TCF and TON indicators

32) Which of the following is the Contact arrangement of Double line SGE make (a)
   a) Brass segments arrangement on ebonite butterfly shaped plate
   b) 6 way circuit controller type or pin type
   c) 9 way drum type with slotted segments
   d) Push button type

33) Which of the following is the Contact arrangement of Double LINE PTJ make (b)
   a) Brass segments arrangement on ebonite butterfly shaped plate

b) 6 way circuit controller type or pin type
c) 9 way drum type with slotted segments
d) Push button type

34) Which of the following is the Contact arrangement of SGE make (c)
a) Brass segments arrangement on ebonite butterfly shaped plate
b) 6 way circuit controller type or pin type
c) 9 way drum type with slotted segments
d) Push button type

35) Which of the following is Door lock mechanism used in Double line SGE Block instrument (a)
a) Mechanical stick
b) Electrical stick
c) Electronic stick
d) Both a and c

36) Which of the following is Door lock mechanism used in Double line PTJ Block instrument (b)
a) Mechanical stick
b) Electrical stick
c) Electronic stick
d) Both a and c

37) Which of the following is Door lock mechanism used in Double line HWH Block instrument (a)
a) Mechanical stick
b) Electrical stick
c) Electronic stick
d) Both a and c

38) SMœ lock is effective in locking BELL plunger in the following make (b)
a) Byculla
b) PTJ
c) HWH
d) BOTH a and c

39) Auto TOL BUZZER/indication is provided in the following make (b)
a) Byculla
b) PTJ
c) HWH
d) Both a anc c

40) Resistance of Bell relay of Double Line Byculla make is (a)
a) 500Ý
b) 400Ý
c) 300Ý
d) 100Ý

41) Resistance of Bell relay of Double Line PTJ make is (b)
a) 500Ý
b) 400Ý
c) 300Ý
d) 100Ý

42) Resistance of Bell relay of Double Line HWH make is (b)
a) 500Ý
b) 400Ý
c) 300Ý
d) 100Ý

43) Working current of Door coil/TOL Lock coil of Double line PTJ make (b)
a) 200mA
b) 250mA
c) 300mA
d) 350mA

44) Working current of Door coil/TOL Lock coil of Double line SGE make (a)
a) 200mA
b) 250mA
c) 300mA
d) 350mA

45) Working current of Door coil/TOL Lock coil of Double line HWH make (b)
a) 200mA
b) 250mA
c) 300mA
d) 350mA

46)Working current of Bell Relay of Double line SGE make (a)
a) 20mA
b) 25mA
c) 30mA
d) 77mA

47) Working current of Bell relay of Double line PTJ make (c)
a) 20ma
b) 30mA
c) 25mA
d) 77mA

48)Working current of Bell relay of Double line Howrah make (b)
a) 20mA
b) 25mA
c) 30mA
d) 77mA

49)Resistance of Bell coil of Double line SGE make (a)
a) 60Ý
b) 77Ý
c) 48Ý
d) 25Ý

50)Resistance of Bell coil of Double line PTJ make (c)
a) 60Ý
b) 77Ý
c) 48Ý
d) 25Ý

51) Resistance of Bell coil of Double line HWH make (d)
a) 60Ý
b) 77Ý
c) 48Ý
d) 30Ý

52) In Double Line Block clearance circuit ZR1 picks up when (a)
a) AT Ź,BT ŷ,ZR2Ź, ZR3Ź
b) AT ŷ,BT ŷ,ZR2Ź, ZR3Ź
c) AT ŷ,BTŹ,ZR2Ź, ZR3Ź

d) AT ŷ,BT ŷ,ZR2Ź, ZR3Ź

53) In Double Line Block clearance circuit ZR2 picks up when (a)
a) AT Ź,BT ŷ,ZR2Ź, ZR3Ź
b) AT ŷ,BT Ź,ZR1ŷ, ZR3Ź
c) AT ŷ,BTŹ,ZR2Ź, ZR3Ź
d) AT ŷ,BT ŷ,ZR2Ź, ZR3Ź

54) In Double Line Block clearance circuit ZR3 picks up when (b)
a) TOL contacts make+ ZR1Ź
b) TOL contacts make +ZR2ŷ
c) TOL contacts make +ZR1ŷ
d) TOL contacts make +ZR2Ź

55) In Double line NON-RE Block instruments , Bell circuit is common for
a) Bell and Telephone
b) Bell and indication circuit
c) Telephone and indication circuit
d) Telephone and LSS clearance

56) what is purpose of Modifications in RE area (a)
a) To prevent induction
b) To allow induction
c) To reduce induction
d) To increase induction

57) Filter unit using in RE area must be (a)
a) Low pass filter
b) high pass filter
c) medium pass filter
d) Band pass filter

58) condenser used in Filter unit is (c)
a) 2 Terminal
b) 3 Terminal
c) 4 Terminal
d) 6 Terminal

59) Flash voltage of gaseous lightning arrestor in Filter unit (c)
a)60v
b)75v
c)150v
d) 250v

60) Resistance Protective Choke(S1) in filter unit (b)
a) 100Ý
b) 50Ý
c) 20 Ý
d) 10Ý

61) Impedance of Protective choke (S1) in filter unit (a)
a) Z at 50HZ =40,000 ohms
b) Z at 60HZ= 20,000 ohms
c) Z at 30 HZ =30,000 ohms
d) Z at 10 HZ = 10,000ohms

62) In filter unit, the Protective choke (S1) Testing voltage is (c)
a) 100 v

b) 200 v
c) 600 v
d) 500 v

63) Resistance of Protective choke (S2) in filter unit (a)
a) 40 ohms
b) 50 ohms
c)66 ohms
d)77 ohms

64) Impedance of protective choke (S2) in filter unit (a)
a) Z at 50 HZ=20000
b) Z at 40 HZ=20000
c) Z at 50 HZ=60000
d) Z at 40 HZ=50000

65) Testing voltage of Protective choke(S2) in filter unit (b)
a)40 v
b) 50 v
c) 60 v
d) 77 v

66) Voltage of Lightning arrestor in filter unit is (c)
a) 300 v
b) 50v
c)150v
d) 75 v

67) Isolation Transformer turnout ratio (b)
a) 1:100
b) 1:1
c) 1:2
d) 3:1

Objective Questions

CHAPTER 1 : Introduction

1) One of the following is the carrier frequencies used in FM handle type block instruments (c)
   a) 65 Hz or 85 Hz
   b) 65 KHz or 85 KHz
   c) 1800 Hz or 2700 Hz
   d) 1800 KHz or 2700 KHz

2) One of the following is the Modulating frequencies used in FM handle type block instruments (a)
   a)65 Hz & 85 Hz
   b) 65 KHz & 85 KHz
   c) 1800 Hz & 2700 Hz
   d) 1800 KHz & 2700 KHz

3) To turn the handle from Line close to TCF in FM handle type instruments, (a)

   One of the following signals is to be received from the other end instrument
   a) 1800 Hz or 2700 Hz Modulated by 85 Hz with DC +ve
   b) 1800 Hz or 2700 Hz Modulated by 65 Hz with DC +ve
   c) 1800 Hz or 2700 Hz Modulated by 85 Hz without DC +ve
   d) 1800 Hz or 2700 Hz Modulated by 65 Hz without DC +ve

4) To turn the handle from Line close to TGT in FM handle type instruments, (b)
   One of the following signals is to be received from the other end instrument
   a) 1800 Hz or 2700 Hz modulated by 85 Hz with DC +ve
   b) 1800 Hz or 2700 Hz modulated by 65 Hz with DC +ve
   c) 1800 Hz or 2700 Hz modulated by 85 Hz without DC +ve
   d) 1800 Hz or 2700 Hz modulated by 65 Hz without DC +ve

5) To turn the handle from TGT to Line close in FM handle type instruments, (a)
   One of the following signals is to be received from the other end instrument
   a) 1800 Hz or 2700 Hz modulated by 85 Hz with DC +ve
   b) 1800 Hz or 2700 Hz modulated by 65 Hz with DC +ve
   c) 1800 Hz or 2700 Hz modulated by 85 Hz without DC +ve
   d) 1800 Hz or 2700 Hz modulated by 65 Hz without DC +ve

6) To turn the handle from TCF to Line close in FM handle type instruments, (a)
   One of the following signal is to be received from the other end instrument
   a) 1800 Hz or 2700 Hz modulated by 85 Hz with DC +ve
   b) 1800 Hz or 2700 Hz modulated by 65 Hz with DC +ve
   c) 1800 Hz or 2700 Hz modulated by 85 Hz without DC +ve
   d) 1800 Hz or 2700 Hz modulated by 65 Hz without DC +ve

7) For exchanging bell codes in FM handle type instruments, ------- is to be transmitted on line1 (a)
   a) DC ï ve
   b) Carrier modulated by 85 Hz signal
   c) Carrier modulated by 65 Hz signal
   d) Carrier frequency

8) FREE indication appears in time release indicator with delay of ----- second, after (a)

initiation of cancellation in FM handle type instruments

a) 120
b) 90
c) 60
d) 30

9) -------- indication appears in time release indicator with a delay of 120 second, after initiation of cancellation in FM handle type instruments (a)
a) FREE
b) TRAIN ON LINE
c) LOCKED
d) RELEASE

10) -------- is used for initiating normal cancellation in FM handle type instrument (a)
a) S1
b) S2
c) PB1
d) PB2

11) -------- is used for initiating pushback cancellation in FM handle type instrument (b)
a) S1
b) S2
c) PB1
d) PB2

12) Train on line indicated by the ---------- indicator in FM handle type instrument (b)
a) TEK
b) TOLK
c) FREE
d) Galvanoscope

13) Time release indicator is activated by the following relay in FM handle type instrument (c)
a) 1R
b) 2R
c) 3R
d) 1TPR

14) Normally time release indicator displays ------ in FM handle type instruments (a)
a) White with caption LOCKED
b) Green with caption LOCKED
c) White with caption FREE
d) Green with caption FREE

15) After 120 second of initiation of cancellation in FM handle type instruments, ---------- is (d)

displayed on time release indicator
a) White with caption LOCK
b) Green with caption LOCKE
c) White with caption FR
d) Green with caption FREE

16) TOL Indicator normally displays ------- indication FM handle type instruments (a)
a) White
b) Green
c) Red
d) Black

17) When a train enters the block section , Train on line indicator displays ---- in (a)

FM handle type instruments

a) Red indication with caption TRAIN ON LINE
b) White indication with caption TRAIN ON LINE
c) Red indication
d) White indication

18) TOLK is a ------- type indicator in FM handle type instruments (a)

a) Magnetic latch
b) Electric latch
c) Mechanical latch
d) Pneumatic latch

19) In FM handle type instruments; ---------- position is not available for block handle (d)
a) line closed
b) TCF
c) TGT
d) TOL

20) In FM handle type instruments, the check lock is available for the following operation (b)
a) Line closed to TCF
b) Line closed to TGT
c) TCF to line close
d) TGT to line close

21) In FM handle type instrument, The check lock is effective at --- position of the handle (d)

a) N
b) R
c) L
d) X^1

22) In FM handle type instrument, Buzzer 1 operates when (a)
a) Train enters block section
b) The block handle turned to TGT
c) The block handle turned to TCF
d) The block handle turned to line close

23) In FM handle type instrument, when SMôs key is out, one of the following is not possible (d)
a) Reception of bell codes
b) Reception of TOL code
c) Transmission of TOL code
d) Extraction of shunt key

24) In FM handle type instrument, Shunt key cannot be extracted in the following position of the block handle (c)
a) TGT
b) Line close
c) TCF
d) TGT with TOL indication

25) In FM handle type instrument, Shunt key when removed, locks the block handle (a)
(a)Mechanically
(b)Electrically

(C)Magnetically
(d)Pneumatically

26)In FM handle type instrument, Level adjust switch is associated with (a)

a) Transmitter
b) Receiver
c) Buzzer unit
d) Block bell unit

27) In FM handle type instrument transmitter, the level adjust switch will not have the following position (d)

a) Low
b) b) Medium
c) c) High
d) d) Very high

28) In FM handle type instrument, Buzzer 2 operates when (a)

a) Train arrives at the station
b) The block handle turned to TGT
c) The block handle turned to TCF
d) The block handle turned to line close

29) ---- are coding relays in FM instruments (a)

a) CR1 & CR2
b) 1CR & 2CR
c) 1R & 2R
d) TER TEPR

30) Periodical over hauling is once in ----- years, in FM handle type block instruments (a)

a) 7
b) 10
c) 25
d) 1

CHAPTER 2: Detailed Circuit Description

1) In FM handle type instrument, PBPR picks up due to ------ supply (a)

a) Local
b) Line

c) External
d) Internal

2) In FM handle type instrument, PBPR is a DC ------- relay (a)
a) Neutral
b) Biased
c) Polarized
d) AC immunized

3) PBPR when energized, connects -------- battery + ve on line1,In FM handle type instrument (a)
a) Line
b) Local
c) External
d) Internal

4) PBPR when energized, connects line battery + ve on line1, and picks up ------ relay at the other end FM handle type instrument (a)
a) BLR
b) NR
c) TRSR
d) PBPR

5) PBPR when dropped connects ---- relay to line, In FM handle type instrument (a)
a) NR
b) PBPR
c) TRSR
d) 1R

6) PBPR when energized, connects local battery supply to ------, In FM handle Type instrument (a)
a) Transmitter
b) Receiver
c) BLR
d) 2R

7) In FM handle type instrument, NR is a DC ---- relay (a)
a) Line
b) Local
c) External
d) Internal

8) In FM handle type instrument, NR is a DC ---- relay (a)
a) QBA1
b) QN1
c) QNA1
d) QBAT

9) In FM handle type instrument, NR is energized when ----- is received (a)
   a) Line battery +ve on L1 & -ve on L2
   b) Line battery - ve on L1 & +ve on L2
   c) Local battery +ve on L1 & -ve on L2
   d) Local battery -ve on L1 & + ve on L2

10) A ----- is used in series with NR to regulate the line current, in FM handle type instrument (a)
   a) Diode
   b) Filter
   c) Transistor
   d) Transformer

11) In FM handle type instrument, BLR is a DC ---- relay (a)
   a) QBA1
   b) QN1
   c) QNA1
   d) QBAT

12 In FM handle type instrument, BLR is a DC ---- relay (a)
   a) Line
   b) Local
   c) External
   d) Internal

13) In FM handle type instrument, BLR is energized when ---- is received (b)
   a) Line battery +ve on L1 & -ve on L2
   b) Line battery - ve on L1 & +ve on L2
   c) Local battery +ve on L1 & -ve on L2
   d) Local battery -ve on L1 & + ve on L2

14) ---- is connected in series with BLR to regulate the line current, in FM handle type Instrument (a)
   a) Diode
   b) Filter
   c) Transistor
   d) Transformer

15) In FM handle type instrument, TEPR is a DC neutral ---- relay (b)
   a) QBA1
   b) QN1
   c) QNA1
   d) QBAT

16) In FM handle type instrument, TEPR is energized with a delay of ----- second After the initiation of cancellation (a)
   a) 120
   b) 90
   c) 60
   d) 30

17) In FM handle type instrument, 3R is a DC neutral ---- relay (b)

a) QBA1
b) QN1
c) QNA1
d) QBAT

18) In FM handle type instrument, 3R energisation is used for (a)
a) Line clear cancellation
b) Train arrival
c) LSS clearance
d) Push back normalization

19) In FM handle type instrument, 3R is energized with a delay of ----- second, after reversing S1 and normalizing LSS control during initiation of cancellation (a)
a) 120
b) 90
c) 60
d) 30

20) In FM handle type instrument, energisation of 3R operates ------- (a)
a) FREE indication
b) TOL indication
c) TAR indication
d) LOCKED indication

21) In FM handle type instrument, energisation of 3R effected by ----- (a)
a) S1
b) S2
c) PB1
d) PB2

22) In FM handle type instrument, 3R energises only after the initiation of cancellation and with handle in ------ position (a)
a) TGT
b) TCF
c) Line close
d) TGT - TOL

23) In FM handle type instrument, 1R is a DC neutral ---- relay (c)
a) QBA1
b) QN1
c) QNA1
d) QBAT

24) Regarding 1R the following is not true, In FM handle type instrument (d)
a) DC neutral AC immunized relay
b) Proves normal condition of the signals concerned
c) It remains normally energized
d) Is a biased relay

25) In FM handle type instrument, TRSR is a DC neutral ---- relay (b)
a) QBA1
b) QN1
c) QNA1

d) QBAT

26) In FM handle type instrument, TRSR picks up when operating handle being turned to (a)
a) TGT
b) TCF
c) Line close
d) TOL

27) In FM handle type instrument, TRSR sticks in the ----- position of Operating handle (a)
a) LX^1
b) R
c) N
d) L

28) In FM type instrument, regarding TRSR one of the following is not true (a)
a) SM's key contact is proved in its pick up path
b) Picks up when operating handle is being turned to TGT position
c) Sticks in the LX^1 position
d) Complies one train one line clear

29) In FM handle type instrument, regarding TRSR one of the following is true (a)
a) TRSR is a slow to release relay
b) TRSR is a quick to release relay
c) TRSR is a slow to pick up relay
d) TRSR is a quick to pick up relay

30) In FM handle type instrument, TOLR is a DC neutral ---- relay (b)

a) QBA1
b) QN1
c) QNA1
d) QBAT

CHAPTER 3 : Frequency Modulation

1) Supply to transmitter is ----- in FM handle type instruments (a)
a) 24v dc
b) 60v dc
c) 12v dc
d) 110v dc

2) Carrier frequency of transmitter is ----- in FM handle type block instrument (a)

a) 1800Hz or 2700 Hz
b) 1800 KHz or 2700 KHz
c) 65 Hz or 85 Hz
d) 65 KHz or 85 KHz

2) Modulating frequency of transmitter is ----- in FM handle type block instrument (c)
a) 1800Hz or 2700 Hz
b) 1800 KHz or 2700 KHz
c) 65 Hz & 85 Hz
d) 65 KHz or 85 KHz

3) Supply to receiver is ----- in FM handle type instruments (a)
a) 24v dc
b) 60v dc
c) 12v dc
d) 110v dc

4) Carrier frequency of receiver is ----- in FM handle type block instrument (a)
a) 1800Hz or 2700 Hz
b) 1800 KHz or 2700 KHz
c) 65 Hz or 85 Hz
d) 65 KHz or 85 KHz

5) Output impedance of transmitter is ----- in FM handle type block instrument (a)
a) 600 ohm, 1120 ohm
b) 60 ohm, 112 ohm
c) 6 ohm, 11 ohm
d) 0.6 ohm, 1ohm

7) Input impedance of receiver is ----- in FM handle type block instrument (a)
a) 600 ohm, 1120 ohm
b) 60 ohm, 112 ohm
c) 6 ohm, 11ohm
d) 0.6 ohm, 1ohm

8) Transmitter coupler is having ---- terminals in FM handle type block instrument (a)
a) 8
b) 6
c) 4
d) 2

9) Receiver coupler is having ---- terminals in FM handle type block instrument (a)
a) 8
b) 6
c) 4
d) 2

10) Transmitter is having ---- number of test points in FM handle type block instrument (a)
a) 6
b) 4
c) 2
d) 1

11) Receiver is having ---- number test points in FM handle type block instrument (a)
   a) 6
   b) 3
   c) 2
   d) 1

12) Maximum power consumption of Transmitter is ---- in FM handle type instrument (a)
   a) 1.2 w
   b) 8w
   c) 1w
   d) 6w

13) Maximum power consumption of Receiver is ----- in FM handle type instrument (b)
   a) 1.2 w
   b) 8w
   c) 1w
   d) 6w

14) Line current required is ------ ma for FM handle type instrument (a)
   a) 110
   b) 25
   c) 60 to 70
   d) 200

15) Local supply required is ----- V, in FM handle type instrument (a)
   a) 24
   b) 12
   d) 110
   d) 230

CHAPTER 4 : RE modification and Acceptance test

1) One of the following is not the acceptance test carried by inspecting authority on each equipment before accepting the delivery (d)
   a) Visual inspection
   b) High voltage test
   c) Insulation resistance test
   d) Wire colour coding test

2) One of the following is not the acceptance test carried by inspecting authority on each equipment before accepting the delivery (d)
   a) Coil resistance test
   b) Wire count & continuity test

c) AC immunity test
d) Impedance measurement

3) In a twin single line section we have to use ---- number of FM handle type instruments (d)
a) One
b) Two
c) Three
d) Four

CHAPTER 5 : Special Requirements and General Maintenance

1) One of the following is not a fixed indication in FM handle type instruments (d)

a) Line closed
b) TCF
c) TGT
d) TOL

2) One of the following is false regarding current indicator in FM instrument (d)
a) Indicates the polarity of the instrument
b) Indicates incoming line current
c) Indicates out going line current
d) Indicates AC line current

3) In FM instrument, means shall be provided to ensure that the instruments are set to TOL ------ by the entry of train into the block section (a)
a) Automatically
b) Manually
c) Semi automatically
d) Semi manually

4) Shape of the TOLK indicator in FM instrument is ------------ (a)
a) Parabolic
b) Spherical
c) Triangular
d) cubicle

5) One of the following is false regarding Transmitter in FM instruments (d)
a) Suitable to use in 25 KV AC Traction area
b) Operates between 21.6V to 28V DC
c) Varistors provided at the output transformer of the transmitter
d) The transistors used of germanium type in transmitter

6) One of the following is false regarding receiver in FM instruments (d)
a) CR1/CR2 operate from the rectified feed from the receiver unit
b) Operates between 21.6V to 28V DC
c) Varistors provided at the input transformer of the receiver
d) The transistors used of germanium type in receiver

CHAPTER 6 : Method of Operation and Failures

1) To send the call attention code of bell signals, in FM instruments ------- to be operated (a)

a) PB1
b) PB2
c) S1
d) S2

2) To acknowledge TOL buzzer -------- is to be pressed in FM instruments (a)
a) PB1 at receiving end
b) PB1 at sending end
c) PB2 at receiving end
d) PB2 at sending end

3) To acknowledge TAR buzzer ------ knob is to be normalized in FM instrument (b)
a) LSS
b) FSS
c) S1
d) S2

4) To turn the TOLK red indication to white, one of the following is to be done in FM instrument (a)
a) Block handle is to be turned to normal
b) Block handle is to be turned to TCF
c) Block handle is to be turned to TGT
d) Block handle is to be turned to TOL

5) FM instruments working is not suspended in one of the following case (d)
a) When attention cannot be obtained direct on the block instrument
b) When signals on the bell are received indistinctly or fail together
c) If the LSS fails to return to ON position as a train passes it
d) When block phone fails

6) One of the following is not the reason for bell beats failure from stn A to B, in FM instruments (d)
a) Line battery low
b) PB1 contact defective at stn A
c) Line open/short circuit & high resistance
d) External battery low

7) One of the Following is not the reason for failure of lock magnet, in FM instruments (d)
a) SMǿs key ON contact is not making
b) 1R front contact is not making
c) S1 & S2 normal contact is not making
d) Line battery is low

8) One of the following is not the reason for failure of relay 1R, in FM instruments (d)
a) Low external battery
b) All signals concerned are not at ON
c) Loose connection in terminal number 6-16 & 46-56
d) Line battery low

9) One of the following is not the reason for failure of relay 2R, in FM instruments (d)
a) TAR not picked up
b) TAR front contact is not making properly
c) Block handle spring contacts 15 & 16
d) Line battery low

10) One of the following is not the reason for failure of relay 3R, in FM instruments (d)
- a) SMøs key contact
- b) S1 reverse contact
- c) Block handle LX^1 contact
- d) Line battery low

11) One of the following is not the reason for failure of relay PBPR, in FM instruments (d)
- a) PB1 & PB2 contacts
- b) 1R front contact
- c) SMøs key contact
- d) Line battery low

12) One of the following is not the reason for failure of relay TRSR, in FM instruments (d)
- a) Local 24v including fuses
- b) CR2,NR & 1TPR front contacts
- c) Block handle contacts XX^1 & LX^1
- d) SMøs key contacts

13) One of the following is not the reason for failure of TOLR at stn A, in FM instrument (d)
- a) TRSR front & 1 TPR back contacts
- b) 3R back contacts & Block handle LB contacts
- c) TRSR slow to release feature with condenser
- d) SMøs key contact

14) One of the following is not the reason for failure of TOLR in stick path, in FM instrument (d)
- a) S2 normal
- b) TOLR front contact
- c) Back contacts of 3R, TRSR & NR
- d) SMøs key contact

15) One of the following is not the reason for failure of TOLR at stn B, in FM instruments (d)
- a) CR2 front & NR back contact
- b) Block handle, RD contacts
- c) Local battery voltage
- d) SMøs key contact

16) One of the following is not the reason for failure of CR1/CR2, in FM instruments (d)
- a) Block handle contacts XY/LB/RD
- b) FM signal input level to receiver
- c) DC input to Transmitter
- d) Line battery low voltage

17) One of the following is not the reason for failure of LSS, in FM instruments (d)
- a) TRSR front & 1R back contacts
- b) S1 normal contact
- c) Block handle LA contact
- d) Weak line battery

18) One of the following is not the reason for failure of FSS, in FM instruments (d)

a) 1R & 2R back contact in HSR

b) TRSR back contact in HSR

c) Block handle RD/LB contacts

d) SMÕs key contact

19) 0ne of the following is not the reason for premature TOL failure, in FM instruments (d)

a) Momentary drop of 1TPR

b) Block handle LX^1 contact

c) Stick feed cut off to TRSR

d) SMÕs key contact

20) One of the following is not the reason for failure of normal cancellation, in FM instrument (d)

a) TRSR dropped due to momentary dropping of 1TPR

b) 3R circuit LX^1 contact is not making

c) S1 switch Reverse contact in TER & 3R circuits

d) S2 switch reverse contact

CHAPTER 7 : Introduction to Push Button Tokenless Block Instrument

1) One of the following is not the purpose of introducing token less block working (d)

a) To reduce the block operating time

b) To increase the section capacity

c) To eliminate the tangible authority

d) To increase the block operating time

2) One of the following is false in connection with Push button block instrument (d)

a) It is a token less instrument

b) Partially cooperative instrument

c) Purely relay interlocked

d) purely non cooperative instrument

3) A pair of push button instruments connected by ------ pair of wires (a)

a) one

b) two

c) three

d) four

4) One of the following is true in connection with push button instruments (c)

a) Mechanically interlocked instrument

b) Magnetically interlocked instrument

c) Relay interlocked instrument

d) RE suitable instrument

5) TCF code of push button instrument is ------ (a)

a) - + -

b) - - +

c) - - -

d) - + +

6) TGT code of push button instrument is ------ (a)

a) - + -

b) - - +
c) - - -
d) - + +

7) TOL code of push button instrument is ------ (c)
a) - + -
b) - - +
c) - - -
d) - + +

8) Line closed code of push button instrument is ------ (d)
a) - + -
b) - - +
c) - - -
d) - + +

9) Bell code of push button instrument with respect to line 1 is (b)
a) - ve
b) + ve
c) - - -
d) - + +

10) Height of the push button instrument is ------ (a)
a) 141 cm
b) 100 cm
c) 200 cm
d) 300 cm

11) Base of the push button instrument measures ------- (a)
a) 56 cm x 31 cm
b) 10 cm x 10 cm
c) 20 cm x 20 cm
d) 30 cm x 30 cm

12) Push button instrument consists of ----- number of relays (a)
a) 36
b) 26
c) 46
d) 4

13) Push button instrument consists of ----- number of resistance & condenser units (d)
a) 36
b) 26
c) 46
d) 4

14) ------ mounting is adopted for fitting the push button instrument (a)
a) Floor
b) Table
c) Bench
d) Counter

15) ------ number of terminals there in the terminal board of push button instrument (a)
a) 50
b) 100
c) 150
d) 200

16) One of the following is false in connection with push button block instrument (d)
a) The user has to provide EKT instruments
b) Wiring is done as per colour code
c) Block panel is surfaced with black colored laminated sheet
d) Doors of the instrument are swing type

17) To cancel line clear in push button instruments ----- buttons are to be pressed (a)
a) BCB & Cancel Button
b) BCB & TGB
c) BCB & LCB
d) BCB & SHK Button

18) Colour of BCB button is ------ in push button instrument (a)
a) Black
b) White
c) Green
d) Red

19) Colour of TGB button is ------ in push button instrument (c)
a) Black
b) White
c) Green
d) Red

20) Colour of LCB button is ------ in push button instrument (b)
a) Black
b) White
c) Green
d) Red

21) Colour of cancel button is ------ in push button instrument (d)
a) Black
b) White
c) Green
d) Red

22) Colour of Shunt key button is ------ in push button instrument (a)
a) Blue
b) White
c) Green
d) Red

23) Colour of slip/catch siding key button is ------ in push button instrument (a)
a) Blue
b) White
c) Green
d) Red

24) Colour of TCF Indication is ------ in push button instrument (c)

a) Black
b) White
c) Green
d) Red

25) Colour of TGT Indication is ------ in push button instrument (c)
a) Black
b) White
c) Green
d) Red

26) Colour of TOL Indication is ------ in push button instrument (d)
a) Black
b) White
c) Green
d) Red

27) Colour of Line close Indication is ------ in push button instrument (b)
a) Black
b) White
c) Green
d) Red

CHAPTER 8 : Push Button Instrument with 'Q' style relays

1) One of the following is not energized from external battery in push button instrument (d)
   a) SNR
   b) ASTR
   c) TAR
   d) TCKR

2) One of the following is false related to SNR, in push button instrument (d)
   a) Proves the normal position of all the signal controls concerned
   b) Picks up by pressing BCB along with TGB/LCB
   c) Picking up of this relay indirectly proves that shunt & slip/catch siding keys are IN position
   d) Normally pick up relay

3) One of the following is false related to SNR, in push button block instrument (d)
   a) Pick up condition of FVT& LVT proved in this relay circuit
   b) Though feed to this relay is available, it does not pick up due to no drain circuit feature
   c) It drops on releasing LSS control
   d) Picks up with line battery

4) One of the following is false related to TAR, in push button block instrument (d)
   a) It is a magnetic latch relay
   b) Picks up through the external battery
   c) De latches to normal through local battery

d) Used for registering the TOL status

5) One of the following is false related to ASTR, in push button block instrument (d)

a) Repeater for FVT
b) Picks up when TGB is pressed
c) Dropping of ASTR initiates auto TOL code
d) Picks up through local battery

6) One of the following is not a line relay, in push button instrument (a)

a) LR
b) TCKR
c) CRR (N)
d) CRR (R)

7) One of the following is a polarized relay, in push button instrument (a)

a) CRR
b) TCKR
c) SHKR
d) SCKR

8) CRR is of ----- type relay, in push button instrument (b)

a) QN1
b) QB3
c) QNA1
d) QBA1

9) One of the following is false related to RCKR, in push button instrument (d)

a) Code reception checking relay
b) Senses progress of the coding circuit at the receiving end
c) When picked up opens the line circuit
d) Is a line relay

10) One of the following is false related to RDR, in push button instrument (d)

a) Receiving delivery relay
b) Stores first ï ve of any code
c) Remains energized till code reception is complete
d) Is an external relay

11) One of the following is false related to CTR, in push button instrument (c)

a) Its front contacts connect line battery to line
b) Its back contact connect CRR(N)/CRR(R) to line
c) Its energisation receives the code
d) Itȍs a code transmitting relay

12) One of the following is false related to LCCPR, in push button block instrument (d)

a) Line closed code reception relay
b) Picks up when line closed code is received from line
c) When picks up, enables the TGTR or TCFR to release
d) Picks up when TOL code is received from line

13) One of the following is not a coding relay, in push button instrument (b)

a) 1CR

b) b) CR2
c) c) 2CR
d) d) 3CR

14) One of the following is not a latch relay in push button instrument (a)
a) ASTR
b) b) TGTR
c) c) TCFR
d) d) TAR

15) Bell coil circuit consists of the contact combination of the following relays (a)
a) Front contact of CRR(N) and back contact of LPR
b) Front contact of LPR and back contact of CRR (N)
c) Front contact of CRR(N) Front contact of LPR and
d) Back contact of CRR(N) back contact of LPR and

16) One of the following is false related to PTR/NTR, in push button instrument (a)
a) Stick feed applied to these relays over TCKR back contact
b) Connect positive / negative of line battery on line respectively
c) They are conflicting to each other
d) These relays stick through TCKR front contact

17) One of the following is false related to TOLAR, in push button block instrument (a)
a) This is not a latch relay
b) TOL acknowledgement relay
c) Releases when the second pulse of the TOL code is received at receiving station
d) Picks up during reception of the second pulse of TGT code at sending station

18) One of the following is not a conflicting relay pair, in push button instrument (d)

a) NTR & PTR
b) N2R & P2R
c) CRR (N) & CRR (R)
d) TCKR & RCKR

19) One of the following is not a local relay, in push button instrument (d)
a) RCKR
b) RDR
c) CTR
d) CRR (N)

20) One of the following is not a local relay, in push button instrument (d)
a) CTPR
b) LCCPR
c) LR
d) CRR (R)

21) One of the following is not a local relay, in push button instrument (d)
a) PTR
b) NTR
c) LPR
d) TCKR

22) One of the following is false regarding CTPR, in push button instrument (b)
 a) Repeater of CTR
 b) Drops immediately as CTR drops
 c) Repeats the CTR while the instrument is transmitting the code
 d) Remains energized till the complete answer back code is received

23) One of the following is false regarding LR, in push button instrument (d)
 a) Coding relay
 b) Reacted first by TCKR while transmitting the code
 c) Reacted first by CRR(R) while receiving the code
 d) This is a line relay

24) One of the following is false regarding P2R & N2R, in push button instrument (d)
 a) Second +ve & Second - ve pulse receiving relays
 b) Store the polarity of the second pulse of a code that is received
 c) These are conflicting relays
 d) Energises from line battery

25) One of the following is false regarding CAR, in push button instrument (d)
 a) Picks up for cancellation of line clear
 b) Picks up when BCB & cancel buttons are pressed
 c) Pushes the counter by one digit
 d) Picks up by external battery

26) One of the following is false regarding ASCR, in push button instrument (d)
 a) Proves that conditions for dispatching a train on line clear are fulfilled
 b) Drops and locks the signal when cancellation is initiated
 c) Front contacts of this are inserted in the signal control circuits
 d) Picks up by external battery

27) SHKR relay front contact is not directly proved in one of the following relays (a)
In push button instruments
 a) RDR
 b) CTR
 c) TCFR
 d) TGTR

28) One of the following is false regarding SCKR, in push button instrument (d)
 a) Slip/catch siding key relay
 b) Low voltage monitoring relay
 c) SHKR front contact is proved in this relay
 d) It is a line relay

29) One of the following is false regarding SCKR, in push button instrument (d)
 a) Connected to key transmitter of slip/catch siding control where necessary
 b) Low voltage monitoring relay
 c) Drops when voltage on load falls to 21v
 d) SHKR back contact is proved in this relay

30) One of the following is false regarding TGTR, in push button instrument (d)
 a) Magnetic latch relay
 b) Has two coils
 c) Picks up on successful reception of TGT code
 d) It is a line relay

31) One of the following is false regarding TGTR, in push button instrument (d)
 a) QL1 Relay
 b)Has operating & releasing coils

c) Reverse contacts are proved in the LSS control circuits
d) Picks up on successful reception of line closed code

32) One of the following is false regarding TCFR, in push button instrument (d)
a) Magnetic latch relay
b) Picks up when TCF code is received
c) Releases on reception of line closed code
d) it is a line relay

33) One of the following is false regarding LPR, in push button instrument (d)

a) Repeater of LR with a difference
b) LPR releases to reset all coding relays
c) Its back contact connects local battery supply to the bell coil
d) It is an external relay

34) One of the following is not a button relay (d)

a) TGTR
b) BCBR
c) TGBR
d) LCBR

35) ------ Timer is used in push button instrument (a)
a) Electronic
b) Mechanical
c) Thermal
d) Electro mechanical

36) ------- type of relays is not used in push button instruments (d)
a) QN1
b) QL1
c) QB3
d) QNA1

37) LPR is having ------ number of pick up paths, through LR front & TCKR front in push button instrument (a)
a) Two
b) One
c) Three
d) Four

38) One of the following is not a code registering relay in push button instrument (d)

a) RDR
b) P2R
c) N2R
d) CTR

39) One of the following is a code terminating relay, in push button instrument (a)
a) RCKR
b) TCKR
c) SHKR
d) SCKR

40) Line current in push button instrument is ------- ma (a)
a) 60 to 70

b) 25
c) 110
d) 200

CHAPTER 9 : Method of Operation (Push button token less block instrument)

1) To set the push button instrument to TGT ----- buttons are to be pressed (a)

a) BCB & TGB
b) BCB & LCB
c) BCB & SHK
d) BCB & SCK

2) To set the push button instrument to Line close ----- buttons are to be pressed (b)
a) BCB & TGB
b) BCB & LCB
c) BCB & SHK
d) BCB & SCK

3) Pressing of BCB & TGB in push button instrument sends ---- code to the other end (a)
a) TCF
b) TGT
c) TOL
d) Line closed

4) Pressing of BCB & LCB in push button instrument sends ---- code to the other end (d)
a) TCF
b) TGT
c) TOL
d) Line closed

5) After the receiving end push button instrument set to TCF, ----- code is automatically transmitted Back to the sending end instrument (a)
a) TGT
b) TCF
c) TOL
d) Line closed

6) One of the following is false in connection with SHK button in push button instrument (d)
a) Colored blue
b) To be pressed to remove the shunt key in Line close position
c) To be pressed to remove the shunt key in TGT-TOL
d) To be pressed to remove the shunt key in TCF position

7) The train dispatching end push button instrument, after setting to line close, generates ----- code and transmits back to receiving end (d)
a) TGT
b) TCF
c) TOL
d) Line closed

8) One of the following is false in connection with panel lamp button in push button instrument (PLB) (d)

a) Colored yellow
b) Pressed to verify the condition of the instrument
c) In new push button instruments this button is dispensed
d) By pressing PLB, we can verify FREE & TOL indications

9) SNRK is an indication to the SM to verify ----- in the push button instrument (a)

a) All the relevant controls are normal
b) All the relevant controls are reverse
c) All the relevant controls are neutral
d) All the irrelevant controls are normal

10) One of the following regarding TOLK is false in push button instrument (d)

a) Red indication
b) When lit indicates train has entered in to the block section
c) Remains lit till the section is closed
d) When lit indicates train has not entered in to the block section

11) One of the following regarding FREE indication is false in push button instrument (d)

a) Green indication
b) Indicates that the prescribed time delay has lapsed
c) Takes 120 seconds to appear
d) Takes 60 seconds to appear

12) One of the following regarding counters is false in push button instrument (d)

a) Registers number of times cancellation has been initiated
b) Jumps by one digit when the cancel & BCB are pressed
c) Jumps by one digit at the train sending end
d) Jumps by one digit at the train receiving end

13) One of the following regarding SM's key is false in push button instrument (d)

a) Prevents unauthorized operation, when SM's key is out
b) Not possible to set the instrument to TGT, when SM's key is out
c) Possible to transmit TOL code, when SM's key is out
d) Possible to send bell code, when SM's key is out

14) One of the following regarding SM's key is false in push button instrument (d)

a) Not possible to send bell code, when SM's key is out
b) Not possible to set the instrument to Line close, when SM's key is out
c) Possible to receive TOL code, when SM's key is out
d) Not Possible to receive bell code, when SM's key is out

15) One of the following regarding SM's key is false in push button instrument (d)

a) Possible to transmit TGT code, when SM's key is out
b) Possible to transmit & receive line closed code, when SM's key is out
c) Possible to receive TCF code, when SM's key is out
d) Phone communication is not possible, when SM's key is out

16) One of the following statements is false regarding push button instrument (d)

a) TOL buzzer sounds intermittently
b) TAR buzzer sounds continuously

c) No overhauling is required
d) Consists of mechanical moving parts

17) One of the following statements is false regarding push button instrument (d)
a) Consists of a set of push buttons
b) Operates on DC pulse codes
c) Consists of relay circuits
d) Bell code consists of three DC pulses

18) One of the following statements is false regarding push button instrument (d)
a) First pulse of operational code is always negative
b) Bell code is always positive
c) While receiving bell code only CRR(N) energizes while other relays are deenergised
d) Bell code and first operational code is same

19) To cancel TGT condition before the train entry into the block section the following buttons are to be pressed at both stations concurrently in push button instrument (a)
a) BCB &
b) BCB & TGB
c) BCB & SHK
d) BCB & SCK

20) To set the push button block instruments to line close when the train pushes back to the dispatching station, following buttons are to be pressed at both the stations concurrently(a)
a) BCB & LCB
b) BCB & TGB
c) BCB & SHK
d) BCB & SCK

21) One of the following codes is not transmitted when LCB or TGB is pressed along with BCB at transmitting station in push button instruments (a)
a) TOL
b) b) TCF
c) c) TGT
d) d) Line close

22) One of the following statements is false regarding push button instrument (a)
a) TOL buzzer operates intermittently at the receiving station
b) TOL buzzer operates intermittently at the sending station
c) TOL buzzer operates continuously at the receiving station
d) TOL buzzer operates continuously at the sending station

23) TOL code can be temporarily suppressed by the sending station by keeping the --- (a)
Button pressed in push button instrument

a) TGB
b) b) BCB
c) c) LCB
d) d) PLB

24) One of the following categorization of relays is not there in push button instruments (d)
   a) External
   b) Line
   c) Local
   d) Internal

25) Cancel button is to pressed along with ------ button in push button instrument (a)
   a) BCB
   b) TGB
   c) LCB
   d) PLB

26) To stop the TAR buzzer ----- is to be normalized, in push button instrument (b)
   a) LSS control
   b) FSS control
   c) Starter control
   d) Shunt signal control

27) TOL buzzer can be acknowledged by the --- button, in push button instrument (a)
   a) BCB
   b) TGB
   c) LCB
   d) PLB

CHAPTER 10 : Failures of Instrument

1) Push button instrument is not suspended for one of the following failures (d)
   a) When attention cannot be obtained direct on the block instrument
   b) When signals on the bell are received indistinctly or fail altogether
   c) If LSS fails to return to ON position as a train passes it
   d) If block phone fails

2) One of the following is not a reason for out going bell code failure, in push button instrument (d)
   a) Disconnection of line battery at sending end
   b) Disconnection in 250 ohm resistance in unit no. iv at sending end
   c) Disconnection of local battery at receiving end
   d) Line battery low at receiving end

3) One of the following is not a reason for code generation failure , in push button instrument (d)
   a) SHKR not picked up
   b) SCKR not picked up
   c) SNR not picked up
   d) SMǿs key is out at the other end instrument

Objective questions

chapter 1: INTERMEDIATE BLOCK SIGNALING

1. In IBS System, the Double Line Block Instrument controls
   a. Rear Section (b) Advance Section (c) Overlap portion (d) Entire Block Section (b)

2. The verification of Rear Section is done by inIB Signalling System.
   (a) ACPR (b) ACZR (c) NSR (d) HSR (a)

3. In IBS System, the Signal Post Telephone is connected to
   (a) Advance Section (b) Rear Section (c) Receiving Station (d)LC Gate. (b)

4. The augmentation of Axle Counter on a Block Section enhance
   (a) First Vehicle (b) Last Vehicle (c) Partial Train (d) Arrival Train. (b)

5. The introduction of Single Section Digital Axle Counters rendered
   (a) Block Interface (b) UFSBI (c) Mini panel (d) Evaluator. (c)

6. The introduction of UFSBI in Absolute Block Working enabled
   (a) Quad (b) Media diversity (c) Only Radio (d)None (b)

7. The introduction of Single Section Digital Axle Counters rendered
   (a) Block Interface (b) UFSBI (c) Mini panel (d) Evaluator. (c)

8. Address configuration jumpers are provided in UFSBI
   (a) CPU Card (b)Input Card©Output Card (d) CC Card Card (d)Mother Board (d)

9. The Task assigned to output Card in UFSBI is
   (a) Safety Relays (b) to perform CRC(c) to disable Block (d) give buzzer. (a)

10. Shunt Key is handed over to the Loco-Pilot during Block Back Shunt
    (a) on Single Section (b) on Double Section (c) IBS(d) Siding. (a)

11. NSR in IBS System is used to
    (a) avoid Starter failure (b) avoid IBS failure (c) Home failure (d) None. (b)

12. SPAD in IBS System is indicated by
    (a) K-1 (b) K-2 (c) K-3 (d)K-4 (a)

13. PB-1 is used along with Co-operation Indication in IBS for
    (a)Resetting AC failure (b) IBS Track failure (c) SPAD (d) LSS failure. (c)

14. PB-3 in IBS is used for
    (a) Cancellation (b) Co-operation (c) Independent Operation (d) None. (b)

15. PB-2 in IBS is used for
    (a) AC resetting (b) SPAD (c) Signal Blank (d) TOL Ack. (a)

16. HSR in IBS is used to
    (a) register SPAD (b) to retain ACZR (c) to avoid Signal Blank (d) None. (b)

17. In IBS system, IBS TPR front contact in ACZR circuit is masked by
    (a) NSR (b) ACZNPR (c)ACZR (d)HSR front contact. (d)

18. Which Relay does reinforce the Train passed IBS at Green in ACZR circuit?
    (a) ACZR (b) HSR (c) NSR (d) IBSTPR. (b)

19. SPAD resetting can be done by using the following Button on co-operation
(a) PB-2 (b) PB-1 (c) Ack Button (d)PB-3. (b)

20. Signal blank is indicated by the following Indication lamp in IBS
(a) K-2 (b) K-1(c) K-3 (d) K-4. (d)

21. K-3 is associated with
(a) LSS Knob (b) IBS Knob (c) Home Knob (d) Starter Knob. (b)

22. K-2 is associated with
(a) LSS Knob (b) IBS Knob (c) Home Knob (d) Starter Knob. (a)

23. In IBS, the Button used for resetting Axle Counter with co-operation
(a) PB-1 (b) PB-2 (c) PB-3 (d) Ack Button. (b)

24. ZR-3 front contacts are used for extending co-operation in IBS system IBS with
(a)NSR (b) HSR (c) CRR (d) ACZR. (c)

25. The following Relay is used to avoid LSS failure in IBS system
(a)HSR (b) NSR (c) ACZR (d) IBS TPR. (b)

26. The Rear Section is controlled by the following relay in IBS System
a) ACPR (b) IBSTPR (c) LSS TPR (d) FVTPR. (a)

27. IBS System exists only in
(a) Single Line (b) Double Line (c) Twin Single line (d) Quadruple Line. (b)

28. The frequency of Train Traffic can be improved if we adopt
(a) IBS System (b)Absolute Block (c)Axle Counter (d)IPS System. (a)

29. In SGE DLBI, the Block Handle Co-ordination is checked by
(a) PR relay (b) LCPR (c)ZR-3 (d) ASR-1 (a)

30. The IB S passing atDanger is registered by
(a)HSR (b) NSR (c) ACZR (d) ACPR (c)

31. In case of IBS failuere, the Loco-Pilot should follow Rule No.
(a)GR 3.76 (b) GR 3.75 (c) GR3.85 (d) GR 4.75 (b)

32. The Block Overlap for Rear Section in IBS System is not less than
(a) 500m (b) 400m (c) 600m (d) 200m (b)

33. IBS System in RE Area requires
(a) Single Cutting (b) RE Cutting (c) operator at `C' class Station (d) None. (b)

34. The IBS Panel can be embedded with
(a) LC Gate Panel (b) SM's Panel (c) Block Panel (d) None. (b)

35. If IB Signal fails, it should be treated as
(a) Signal failure (b) Entire Section failure as a whole (c)Rear Section failure
(d) Advance Section failure. (b)

chapter 2: AXLE COUNTER BLOCK WORKING

1. Block Proving Axle Counters are added to conventional Block Instruments for

(a) ensuring LV (b) ensuring LC Gate ©Distant Signal (d) None (a)

2. ACPR proves the status of the Block Section in case of
(a) Digital Axle Counter (b)Analog Axle Counter (c) MSDAC (d) SSDAC. (b)

3. VPR proves the status of the Block Section in case of
(a) Analog Axle Counter (b) Digital Axle Counter (c) MSDAC (d) SSDAC (b)

4. The augmentation of Axle Counter in conventional Block working ensures
(a) Partial Train (b) Complete Train (c) only Engine (d) only Brake Van. (b)

5. VPR front contacts are proved in
(a) Line Clear Circuit (b) Advance Starter Circuit (c) Block Clearance Circuit
(d) all these three circuits. (d)

6. The advantage of Digital Axle Counter is
(a) VPR is picked up at both the Ends (b) Central operation (c) End operation
(d) None. (a)

7. In PTJ Push Button block Instrument, if BPAC is added the VPR PU contact is to be inserted in (a) PBPR circuit(b) SNR ccircuit (c) TRSR circuit (d) NR circuuit. (b)

8. In PTJ DLBI, if BPAC is added, the VPR PU contact is inserted in
(a) Line Clear Indication circuit (b) Bell cicuit (c) SNR circuit (d) None. (a)

9. In FM Block Instrument, if BPAC is added, VPR PU contact is inserted in (a) HSR circuit (b)BLR circuit (c)NR circuit (d) PBPR circuit. (d)

10. Radio Interface is required for Block operating Signals where (a) the Line of Sight is not good (b) the Terrain is rocky (c) Cable laying possible (d) None. (b)

11. If an interface is connected for OFC compatibility, then the Block operating signals can be sent through (a) Quad cable (b) OFC (c) Radio (d) None. (b)

12. If BPAC s are introduced in Block Sections, we can
(a) dispense with End to End electromechanical operations (b) introduce Block Panel with Relay cabinet © Relay Cabinet (c) media diversity (d) all the three (d)

13. SM's Alarm Panels are employed for
(a) Preventive Maintenance and system failure (b) Train Operations
(c) self restoration (d) None. (a)

14. In UFSBI Block operation, Block Shunt movement is indicated by
(a) TCF display (b) TGT display (c) TOL display (d) Line Occupied display. (d)

15. SNK and SNOEK are possible only in
(a) Conventional Block Operations (b) UFSBI system (c) Auto Signalling
(d) None of these. (b)

16. During Block Section Shunt movement in UFSBI System
(a) TOL Indication is given (b) Line occupied Indication is given
(c) No Indication (d)Line Closed Indication. (b)

17. The TGTR used in UFSBI rack is of
(a) neutral Relay (b) Latched Relay (c) AC Immunised Relay (d) None. (b)

18. The TCFR used in UFSBI rack is of
(a) Latched Relay (b) neutral Relay (c) AC Immunised Relay (d) None. (a)

19. In UFSBI Block operation, the TOL Buzzer is givn at
(a) Sending End (b) Receiving End (c) both the Ends (d) None. (c)

20. In UFSBI Block operation, the Section Clearance Buzzer is givn at
(a) Sending End (b) Receiving End (c) both the Ends (d) None. (c)

21. The number of input cards in UFSBI are
(a) 8 (b) 6 (c) 7 (d) 9 (b)

22. the number of Output cards in UFSBI are
(a) 8 (b) 6 (c) 2 (d) 9 (c)

23. The number of CPU Cards in UFSBI are
(a) 6 (b) 4 (c) 3 (d) 5 (c)

24. The CRC check is done in
(a) Input card (b) Outputcard (c) CPU card (d) CC card. (c)

25. The RS 232 Conversion is done in
(a) CPU card (b) CC card (c) Inputcard (d) Output card. (b)

26. TTL logic is taking place in in
(a) CC card (B) CPU card (c) Input card (d) None. (a)

27. The connectivity in UFSBI is achievedc through
(a) Modem (b) Reset Unit (c) Mother Board (d) None. (c)

28. AZTR in UFSBI System is used as
(a) Bell relay (b) Axle Counter proving Relay (c) Acknowledgement Relay
(d) Shunt Key Relay (b)

29. The number of acknowledgement Buttons on Double Line UFSBI Block Operating Panel
is (a) 3 (b) 2 (c) 4 (d) 1. (b)

30. Shunt Keky is used as tangibility Authority in UFSBI system for
(a) Block Forward (b) Block Back (c) Push Back (d)None (b)

31. Shunt Key release Key is employed in
(a) Single Line Block Panel (b) Double Line Block Panel
(c) Auto Section (d) Absolute Section. (a)

32. Line Clear Blocking Key is provided in
(a) Doubl Line Block Panel (b) Single line Block Panel (c) Station Operating Panel
(d) Power Panel (a)

33. During shunt movement in he Block Section,the Indicationdisplayed on Block Panel is
(a) TOL (b) Line occupied (c) Line Closed (d) None. (b)

34. In UFSBI Panel, the 5V DC supply is used for
(a) Relay drive (b) Digital Logic circuits (c) Button circuits (d) Buzzer circuits. (b)

35. In UFSBI Panel, the CC Card is connected to
(a) Input card (b) Button Relays (c) Output cards (d)Reset Unit. (c)

36. In UFSBI Panel the top Arrow illumination indicates
(a) TCF (b) TGT (c) TOL (d)LineClosed. (b)

37. In UFSBI Panel the Bottom Arrow illumination indicates

(a) TCF (b) TGT (c) TOL (d)LineClosed. (a)

38. In UFSBI Panel the SM's Key is required for
(a) only Outgoing commands (b) Incoming commands (c) both I/O commands
(d) None. (a)

39. W hat is essential for efficient Radio communication
(a) Line of symmetry (b) Line of Sight (c) Line of Intersection. (d) None. (b)

40. UFSBI equipment can also be used in
(a) IBS System (b) IPS System (c) Electrically operated LC Gate system
(d) None. (a)

41. The Battery Bank used for UFSBI System is of
(a)30V (b) 24V (c) 40V (d) 90V (b)

42. In UFSBI, the TTL to RS232 Protocol is done in
(a) CPU Cards (b) CC Card (c) Out put Card (d) None. (b)

43. UFSBI equipment can drive
(a)Track Relays (b)Safety Signlling Relays (c) Line Relays (d) None. (a)

44. UFSBI is capable of driving
(a)16 Input - 16 Output (b) 18 Input-18 Output (c) 6 Input- 6 Output (d) None. (a)

45. IUFSBI, Modem is connected to
(a)Output Card (b) Input Card (c) Other End Modem (d) None. (c)

46. Rdio Interface is required for
(a) OFC Transmission (b) Signalling CableTransmission(c) Radio wave Transmission
(d) None of these. (c)

47. UFSBI Equipment requires
(a) Opto-coupler for OFC Transmission (b) Radio Interface for OFC connection
(c) OFC direct onnection (d) None (a)

48. The total number of Relays in Efftronics make Block Interface is
(a) 24 (b) 11 (c) 14 (d) 36. (b)

49. In SSBPAC (D) Block Working,
(a) 36 Relays are used in Relay Cabinet (b) Solid State components are used in
equipment (c)20 Rlays are used (d)None. (b)

50. In SSBPAC (D) Block Working, the SM's operational time is
(a) increased (b) reduced (c) retained as it is as in conventional Instruments
(d) None. (b)

Subjective Questions

Chapter 1 :Introduction

1 To detect presence of a vehicle of a set portion of track is known as ---------- Detection
A) Signal B) point C) Train D) Track (c)

2 The components of D.C track circuit are
A) Ballast Resistance B) Regulating Resistance C) Rail Resistance D) TSR (B)

3 In closed Track Circuit, feed end contains
A) Battery only B) Regulating resistance only C) Battery charger only
D) Battery, regulating resistance and Battery charger (D)

4 In DC track circuit, a resistance called Regulating Resistance is connected in--------with feed end
A) Series B) parallel C) series-parallel D) not connected (A)

5 Regulating resistance does not serve the following purpose
A) It adjust the relay end voltage B) It protects the feed end equipment
C) It causes voltage drop D)It protects the relay (D)

6 A series resistance of 0 -15 Ohms with ---------------ohms tapping is used in Non-RE
A)1,2,3,4 B)1, 2, 4, 8 C)2,3,4,5 D)3,4,5,6 (B)

7 A series resistance of 0 -30 Ohms with --------------ohms tapping is used in RE area
A)1,2,3,4 C)2,3,4,5 D)3,4,5,6 D)2, 4, 8, 16 (D)

8 Minimum percentage release of track relays should be
A)50% B)60% C)68% D)78% (c)

9 Ballast resistance is----------------- proportional to the length of Track circuit
A)directly B)inversely C)not proportional D)equal (B)

10 Minimum Ballast resistance per km length of track circuit in Station yards should be
A)2ohms B)4ohms C)6 ohms D)1ohm (A)

11 Minimum Ballast resistance per km length of track circuit in Block section should be
A)2ohms B)4ohms C)6 ohms D)1ohm (B)

12 Minimum Permissible Resistance of a Concrete Sleeper In Non - RE and AC RE area
A)500 ohms B)800 ohms 600 0hms D)1000 ohms (A)

13 With PSC sleepers, availability of insulated GFN) liners up to a level of------- shall be ensured
A)50% B)100% C)97% D)90% (c)

14 Maximum permissible rail resistance per kilometre for Track circuit length up to 700mts
A)0.5 ohms B)1.5 ohms C) 1 ohm D) 2 ohms (B)

15 Maximum permissible rail resistance per kilometre for Track circuit length more than 700mts
A)1.5 ohms B)0.5 ohms D) 2 ohms C) 1 ohm (B)

16 Train shunt Resistance for DC track circuits is specified as
A)o.15 ohms B)2ohms C) 0.5 ohms D)1 ohm (c)

17 Train shunt Resistance for AC track circuits is specified as
A) o.15 ohms B) 2 ohms C) 0.5 ohms D)1 ohm (A)

18 Increase in Relay voltage is due to one or more of the following factors
A)Increase in ballast resistance B)) decrease in Feed end voltage
C)Increase in Feed end resistance D)Increase in Rail resistance (A)

19 The highest value of shunting resistance that can cause the track relay to drop is referred to as A)Train shunt resistance B)ôDrop Shunt resistance
C)Regulating resistance D)Pick up shunt (B)

20 Train Shunt test shall be taken at
A) Relay end only B) Turn outs only
C)Feed end only D) Relay end , turn outs/crossings (D)

21 The highest resistance which, when applied across the track, can open the track relay front contacts is known as its
A)Ballast Resistance B)Regulating resistance
C)Rail resistance D)Train shunt resistance (D)

22 Negative rails of adjoining track circuits are provided with a cross connection-bonding strip in between, known as
(A) Longitudinal bonds (B) Cross bonds
(C) ôTransverse Bondô (D) Structure bonds (C)

23 The highest value of shunting resistance that can cause the Track relay to drop is referred as
(A) Train shunt Resistance (B) Drop Shunt Resistance
(C) Pick up shunt resistance (D)Rail resistance (B)

24 The least resistance value at which the track relay picks up is called as
(A)Pick up shunt value (B) Drop shunt value
(C) Train shunt resistance value D) Regulating resistance value (A)

25 In multiple line sections traction return rails in track circuits are cross connected with --------------- Bonds at an interval of about 100metres in between them
(A) Longitudinal bonds (B) Cross bonds (C) Structure Bonds (D) Transverse bonds (B)

Chapter 2: DC Track Circuits

1. Minimum length of DC track circuit is 2 rail length track for train speed up to ------------
A)100kmph B)110 kmph C)130 kmph D)160kmph (c)

2. Minimum length of DC track circuit is 3 rail length track for train speed up to ---------
A)100kmph B)110 kmph C)130 kmph D)160kmph (D)

3.Resistance of Q Style Track relay for track length less than 100metres
A) 9 ohms B) 4 ohms C) 2.25 ohms D) 2 ohms (A)

4. Resistance of Q Style Track relay for track length more than 100metres
A) 9 ohms B)4 ohms C)2.25 ohms D)2 ohms (B)

5. In RE areas, traction return current flow through the negative rail to
A) OHE mast B) Sub-station (SP) Earth C) Sleepers D) Catenary (B)

6. The rail at whose block joint, traction return current flow is stopped is called
A) Insulated rail B) Uninsulated rail C) negative rail D) Traction rail (A)

7. In multiple line sections traction return rails in track circuits are cross connected with bonding straps (cross bonds) at an interval of about
A)50 mtrs B)100 mtrs , C) 150 mtrs D) 200 mtrs (B)

8. Negative rails of adjoining track circuits are provided with a cross connection-bonding strip in between, known as
A)Longitudinal bonds B)Cross bonds C)Transverse bonds D)Structure bonds (c)

9. A ôBôType choke (R=3 Ý and Z=120 Ý at 50 Hz) shall be connected in ------------- with track feed end A)Parallel B)Series C)Series-Parallel D)not connected (B)

10. A ôBôType choke------------------------------- shall be connected in series with track feed to the un-insulated rail (-ve Rail)
A) R=15Ý and Z=30Ý at 50 Hz B) R=120 Ý and Z=3 Ý at 50 Hz
C) R=3 Ý and Z=120 Ý at 50 Hz D) R=3 Ý and Z=100 Ý at 50 Hz (c)

11. Track relay used in D.C. Track circuit RE area is
A) QT2 B) QNA1 C)QSPA1 D)QTA2 (D)

12. TPR (Track proving relay) for QTA2 or QBAT track relay shall be -------------relay
A) QNA1 B) QSPA1 C) QN1 D) QNA1K (B)

13. The Induced voltage due to RE catenary on parallel conducting path (Rails) is ----------volts per 90 Mtrs length of track
A)30 B)20 C)15 D)10 (D)

14 AC Immunity of QTA2 track relay is ---------volts
A) 50 B) 80 C) 100 D) 300 A

15 AC Immunity of QBAT track relay is -----------volts
A)50 B)100 C)30 D)80 (D)

16 Maximum length of DC Track Circuit in non RE-area with PSC sleepers in yard shall be -----------metres
A)1000 B)450 C)350 D)670 (D)

17 Maximum length of DC Track Circuit in non RE-area with PSC sleepers in Block section shall be -----------metres
A) 1000 B) 670 C) 350 D) 450 (A)

18 Maximum length of Track Circuit in RE-area with QTA2 Relay shall be -----------metres
A)670 B)750 C)450 D)720 (c)

19 Maximum length of Track Circuit in RE-area with QBAT Relay shall be -----------metres
A)750 B)350 C)450 D)670 (A)

20 When minimum permissible Train shunt resistance is connected across track, the voltage across the track relay shall not be more than -------- of its drop away value
A)50% B)67% C)85% D)90% (c)

21 Maximum excitation at relay end shall not exceed --------------% for QT2/QTA2 track relay
A)250 B)235 C)300 D)125 (c)

22 Maximum excitation at relay end shall not exceed --------------% for shelf type track relay
A)250 B)235 C)300 D)125 (A)

23 Maximum excitation at relay end shall not exceed --------------% QBAT track relay
A) 300 B)125 C)235 D)250 (c)

24 Minimum excitation of the track relay shall be _______% for QTA2 track relay
A) 125 B)250 C)122 D)235 (A)

25 Minimum excitation of the track relay shall be _______% for QBAT track relay
A)125 B)122 C)235 D)250 (B)

26 Cut section Track circuits is generally adopted when it is not possible to work at a long track circuit due to poor
A)Rail resistance B) Ballast resistanceC) Regulating resistance D)Relay resistance (B)

27 The total stray current as measured, shall not exceed ----------- if the length of the track circuit is less than 100metres
A) 10 ma B)1 ma C) 100ma D)1amp (A)

28 The total stray current as measured, shall not exceed ----------- if the length of the track circuit is more than 100metres
A) 10 ma B) 100ma C)1 amp D) 1 ma (B)

29 Measurement of stray voltage: Rail earth voltage as measured across the Resistance óRô shall not exceed ------------
A) 10 milli volts B)50 mill volts C) 100 millivolts D) 10 volts (c)

Chapter 3 :Insulation Rail Joints and Maintenance

1. There are ------- types of Block Joints
   A) 1type B) 2 types C) 3 types D) 4types (B)

2. Nylon Insulated Rail joints are available in -------sizes
   A) 90R only) 52 kg only C) 60 kg only D) 90R, 52 kg & 60kg (D)

3. Insulation Resistance of Glued Joint Shall not be less than -------------ohms in Dry weather condition
   A) 5 Mega ohms B) 10 Mega ohms C) 25 Mega ohms D) 3 kilo ohms (c)

4. Insulation Resistance of Glued Joint Shall not be less than -----------ohms in Wet weather condition
   A) 5 Mega ohms B) 25 Mega ohms C) 10 Mega ohms D) 3 kilo ohms (D)

5. The Ballast clearance from the underside of rail must not be less than -------------
   (A) 20mm (B) 30mm (C) 40mm (D) 50mm (D)

6. Insulation Resistance of Glued Joint shall be measured with a -----------meggar
   (A) 500 V DC (B) 100 VDC (c) 500 VAC (D) 100V AC (A)

7. Block joints shall be provided away from fouling mark at a distance of not less than ---------- metres towards divergence
   (A) 5 m (B) 4 m (C) 3 m (D) 2 m (C)

8. -------------- SWG Galvanised Iron wires are provided to make Rail Bonds
   (A) 6 (B) 8 (C)10 (D) 12 (B)

9. To fix a pair of bonds at each rail joint ----------mm holes are drilled on the rails
   (A) 6 (B) 7 (C) 7.2 (D) 7.5 (C)

10. Channel pins shall be driven with a ----------------kg hammer
    (A) 1 Kg (B) 2 kg (C)1.5 kg (D) 3 kg (C)

11. Glued joints are fabricated in workshop in ------------- m Length
    (A) 4.2 m only (B) 6.2 m only (C) 4.2 m& 6.2 m (D) 4 & 6 m (C)

12. At least ---------- sleepers on either side of the Glued Joint to be well packed
    (A) 3 (B) 6 (C) 8 (D) 10 (D)

13. William stretcher bars provided on points turnouts have to be ------------ in the middle
    (A) Insulated (B) Disconnected (C) joined (D) Shorted (A)

14. Glued joints are to be replaced once in ---------years
    (A) 3years (B) 5years (C) 6years (D) 10 years (B)

15. Glued joints are to be replaced after ________ GMT (Gross Million Tonnes) of Movement of Traffic
    (A) 100 GMT (B) 250 GMT (C) 150 GMT (D) 200 GMT (B)

16. Track circuits require --------------for isolating adjacent track circuits

(A)Block Joints (B) Bond wire (3) Transverse Bonds (D) Longitudinal Bonds (A)

CHAPTER – 4:Track Circuit Bonding

1. For track circuiting turnouts---------------- type of arrangement is possible
A) Parallel B) Series C) Series-parallel D) parallel, series and series-parallel (D)

1. The dead section shall
A) accommodate a four wheeler B) accommodate a eight wheeler
C) not accommodate a four wheeler D) not accommodate a eight wheeler (c)

2. Dead section on pointꞌs zone shall not be more than
A) 1.8metres B)3.6 metres C) 6 metres D) 12 metres (A)

3. If the dead section is longer than ------------ metres , a ꞌTrap Circuitꞌ shall be provided
A)6 metres B) 3.6 metres C) 10.8 metres D)11.7 metres (c)

4. All the track circuit tail cables shall be meggered once in
A) a year B) 6 months C)2 years D) 3months (B)

5. Block Joint protecting Fouling shall not be less than---------------- Mtrs from Fouling mark
A)2mtrs B) 3mtrs C)5mtrs D)6mtrs (B)

6. In parallel connection of a simple turn-out ----------- block joints are provided in the middle of the track circuit
A)1 B) 2 C) 3 D) 0 (B)

7. ------------ connection (bonding) is preferred for DC track circuit in RE-area
(A) Series-parallel (B) Series C) Parallel D) Series-series (A)

8. A track circuit shall extend beyond ---------------on both straight road and diversion portions
A) SRJ B) Starter C) Fouling mark D) Crossing (c)

9. The portion of the track circuit in which occupation by a vehicle is not detected is
A) Isolation B) Dead section C) open Track circuit D) Trap (B)

10. Positive feed jumpers in RE area are provided by ___________ Dept.
(A)OHD (B) Engg (C) Elec. (D) S&T (D)

11. In RE area ________ end position block joints on main line are provided in addition to block joints in cross overs
A) 2 B) 3 C) 1 D) 4 (D)

12. In RE area in addition to four end position block joints on main line , ______ block joints are exclusively provided on cross overs and _______ block joints in between, to separate the track circuits
A)4 & 4 B) 4 & 3 C) 3 & 4 D)4 & 2 (A)

13. Any change of their components or adjustments shall be immediately followed by a test of
A) Ballast resistance B) TSR C) Rail resistance D) Glued joint (B)

15. ___________ joint inspection with JE/SSE (P-Way) helps in carrying out timely preventive of track circuits
A) monthly B) Quarterly C) Half-yearly D) yearly (B)

16. All track circuit tail cables should be meggared once in
A) 3 months B) 6months C) a year D) 2 years (B)

17. Chargers used in Track circuits shall be rated not less than ________ ampere
A) 1 B) 2 C) 3 D) 5 (c)

18. Signal replacement track circuit Block joint shall be kept at a distance of _____ mts from the signal post
A) 2 B) 6 C) 5 D) 3 (D)

CHAPTER – 5:Audio Frequency Track Circuit

1. Audio frequency track circuits can be classified into ----------- major groups
A) 5 B) 2 C) 3 D) 4 (B)

2. Audio Frequency Track Circuit (AFTC) works with
A) Frequency modulation B) Amplitude modulation
C) Phase modulation D) phase width modulation (A)

3. Audio frequency track circuit requires
A) Block Joints B) Track relay C) Choke D) Tuning units (D)

4. Audio frequency track circuit requires
A) Block Joints B) impedance bonds C) Transverse bond D) Track relay (B)

5. AFTCs work in the frequency range of
A) 20 Hz B) 20000 Hz C)20 to 20K Hz D) 2k Hz to 20k Hz (c)

6. There are -------major manufacturers of AFTC
A) 2 B) 3 C) 5 D) 4 (D)

7. The communication from Transmitter to Tuning unit is
A) Signal Cable B) OFC C) Radio D) Quad cable (D)

8. The communication from Receiver to Tuning unit is
A) OFC B) Quad cable C) Signal cable D) Radio (B)

9. The codal life of AFTC is
A) 10 years B) 12 years C) 15 years D) 20 years (c)

10. The basic carrier frequency is generated by
A) Power supply unit B) Receiver C) Transmitter D) Oscillator (D)

11. 0.9mm quad cable is best suited for __________ matching
A) Frequency B) amplitude C) capacitance D) impendence (D)

12. In AFTC, the output of the modulated signal from the Transmitter is connected to the tuning unit which forms a ____________ circuit
A) Resistive B)Resonant C) Capacitive D) Inductive (B)

13. A tuning unit is located at

A) Track side connection box B) Location box
C) At the centre of Track D) Relay Room (A)

14. For Balancing the Traction Return currents _________ are used
A) Impedance bonds B) Tuning unit C)Transverse bonds D) Structure bonds (A)

15. For adjacent AFTC there should be at least __________ frequency separation
A) 1 B) 2 C) 3 D) 4 (A)

16. Remote feeding up to ________km is possible in AFTC
A) 1 km B) 2 km C) 2.5 km D) 3.5 km (D)

17) Minimum Insulation Resistance in each pair (Tx & Rx) should be more than
A) 10 m ohms B) 20 m ohms C) 50 m ohms C) 100 m ohms (A)

18. AFTC can be used
A) AC electrified areas only B) DC electrified areas only
C) non RE areas only D) universally in all areas (D)

CHAPTER- 6:BOMBARDIER (ABB) – AFTC (T I 21)

1. In ABB (AFTC) there are ---------- number of nominal frequencies
A) 4 B) 6 C) 8 D) 12 (c)

2. In ABB (AFTC) multi vibrator generates a square wave signal of --------- frequency
A) 4HZ B) 4.8HZ C) 11HZ D) 17HZ (B)

3. ABB AFTC works with a modulated frequency of +/-
A) 4.8HZ B)11HZ C) 17HZ D) 64 (c)

4. In ABB AFTC, The electrical separation of adjacent track circuits is obtained by Tuning a short length of track about -------- metres
A)19.5 B)18 C)20 D)18.5 (A)

5. In ABB AFTC, -------------Relay is used
A) 24VDC B)50 V DC C)60 V DC D) 12V DC (B)

6. Length of track circuit in ABB AFTC in Low power mode is --------------- metres
A) 50 - 250 B) 100-250 C) 30 D) 200 - 650 (A)

7. Length of track circuit in ABB AFTC in normal mode is --------------- metres
A) 50 - 250 B) 100-250 C) 30 D) 200 - 650 (D)

8. Tuned Zone can be located
A) in a Level crossing B) on a Bridge
C) on check rails D) on either side of a level crossing (D)

9. Maximum_____ transmitters of different frequencies can be connected to the same Power supply unit in ABB AFTC
A) 2 B) 1 C) 3 D) 4 (A)

10. Maximum_____ Receivers of different frequencies can be connected to the same Power supply unit in ABB AFTC

A) 2 B) 4 C) 8 D) 6 (c)

11. Track circuits less than _______ meters should be connected in Low power mode
A) 50 B) 100 C) 200 D) 300 (c)

12. Track circuits more than _______ meters should be connected in Normal power mode
A) 400 B) 100 C) 200 D) 300 (c)

13. Low power (ABB) Track circuit feeds about ____ Watt power in the track
A) 2 W B) 3 W C) 4 W D) 5 W (B)

14. Normal power (ABB) Track circuit feeds about ____ Watt power in the track
A) 20 W B) 40 W C) 10 D) 5 W (B)

CHAPTER-7:Siemens AFTC (FTG-S)

1. Siemens AFTC is ----------------AFTC
A) Local fed B) Remote Fed- coded C) Non-coded D) coded (B)

2. There are ----------no. of frequencies in Siemens AFTC
A) 4 B)8 C)12 D)16 (C)

3. There are ----------no. of code bit patterns in Siemens AFTC
A)8 B)12 C)15 D)20 (c)

4. Siemens AFTC works with a modulated frequency of +/-
A)17HZ B)64Hz C)11Hz D)100Hz (B)

5. Siemens FTGS 46 consists of ---- no. of frequencies
A)4 B)6 C)8 D)12 (A)

6. Siemens FTGS 921 consists of ---- no. of frequenciesô
A)4 B)6 C)8 D)12 (c)

7. If SIEMENS AFTC is followed by SIEMENS AFTC then ______ bonds shall be used between the two adjacent track circuits
A) S-Bond B) alpha bond C) shunt bond D) Impendence bond (A)

8. If SIEMENS AFTC is followed by other AFTC or DC track circuit then ______ bonds shall be used between the two adjacent track circuits
A)) alpha bond B) S-Bond C) shunt bond D) Impendence bond (A)

9. If no other track circuit is there after Siemens AFTC ____ bond is used
A) S-Bond B) alpha bond C) shunt bond D) Impendence bond (c)

10. For FTGS 917 a frequency spacing equal to or greater than ______ kHz must be observed
A) 0.5 KHz B)2 KHz C) 1 KHz D) 1.5 KHz (B)

11. For FTGS 46 a frequency spacing equal to or greater than ______ kHz must be observed
A) 0.5 KHz B) 2 KHz C) 1 KHz D) 1.5 KHz (c)

12. With 0.9 mm dia Quad cable, FTGS 917 works up to ____ length for remote fed

A) 500 metres B) 1 km C) 1.5 km D) 2km (B)

13. With 0.9 mm dia Quad cable, FTGS 46 works up to ____ length for remote fed
A) 2.9 km B) 1 km C) 1.5 km D) 2km (A)

ANNEXURE - I: ALSTOM AFTC

1. There are ----------no. of frequencies in Alstom AFTC
A) 4 B) 8 C) 12 D) 14 (D)

2. ALSTOM AFTC DTC 24 consists of ---- no. of frequencies
A) 4 B) 6 C) 8 D) 12 (B)

3. ALSTOM AFTC DTC 921 consists of ---- no. of frequencies
A) 4 B) 8 C) 12 D) 14 (B)

4. Alstom AFTC code bit length is
A) 8 bits B) 100 bits C) 200 bits D) 16 (c)

5. There are ----------no. of code bit patterns in Alstom AFTC
A) 15 B)8 C)42 D)16 (c)

ANNEXURE - II:ANSALDO (US&S) AFTC - UM71

1. The UM71 operates at one of the -----------------basic frequencies
A)2 B)3 C)4 D)6 (c)

2. In UM71 a pair of frequencies assigned to one track circuit (TRACK I) are
A) 1700-2000 Hz B) 1700-2300 Hz C) 1700-2600 Hz D) 2000-2300 Hz (B)

3. In UM71 pair of frequencies assigned to second track circuit (TRACK II) are
A) 1700-2000 Hz B) 1700-2600 Hz C) 2000-2600 Hz D) 2000-2300 Hz (c)

4. In UM 71 ESJ length varies from ------------------ Metres
A) 20-29 B) 20-22 C) 20-24 D) 20-26 (A)

ANNEXURE – III : AC Track Circuits

1. A reliable ------------------ supply is a pre-requisite for working AC track circuits in Siemens practice
A) Single phase ACB) 2-phase AC C) 3-phase AC 4) DC (c)

2. In single rail A.C. Track Circuits -------------supply is used between the Nominated phases
A) 110 V 83 1/3 Hz AC B) 110 V 60 Hz AC C) 110 V 15Hz AC D) 230 V AC (A)

3. It is a device used for bonding the rails of a Double Rail track circuit

with adjacent track rails
A) Shunt bond B)Alpha bond C) Impedance bond D) S-bond (c)

4. A minimum TSR of _____ ohm is permitted to be maintained in AC track circuits
A) 0.5 B) 0.25 C) 0.15 D) 0.4 (c)

5. The local coil voltage is _______ @ 50 Hz
A) 130 V B) 110 V C) 230 V D) 165 V (A)

6. The local coil voltage is _______ @ 83 1/3 Hz
A) 130 V B) 110 V C) 230 V D) 165 V (D)

Objective Questions

Chapter-01: Introduction

1. Axle counter system requires
A) IRJ B) Wooden/PSC C) ESJ D) None
Ans. D

2. Axle counter system used to detect
A) Platform linesô B) / óMain linesô C) / óLoop linesô D) All of the above
Ans. D

3. Initially axle counters were imported from
A) UK B) USA C) JAPAN D) Germany
Ans. D

4. New axle counter developed by RDSO is known as ñUNIVERSAL AXLE COUNTERò
A) Mark-I B) Mark-II C) UAC D) None
Ans. C

5. Universal AXC system detects up to __________ on Straight/Points Zone track portion
A) 1 óEntry / Exitô B) 2 óEntry / Exitô C) 3 óEntry / Exitô D) 4óEntry / Exitô

Ans. D

6. An universal axle counter system can cover a very long section up to
A) 20 Kms B) 10 Kms C) 5 Kms D) 15Kms
Ans. D

7. For ówheel detectionôtrack device uses accordingly their type
A) óAmplitude Modulationó B) Phase Reversal Modulationôtechnique
C) Both D) None
Ans. C

8. data processing is done at the centralised place then the connection between óTrackside Equipmentôand óCentral Evaluatorôis made using
A) Quad B) OFC C) Signaling Cable D) A & B
Ans. D

9. Resetting type of axle counter system in case of failure
A) Hard Reset B) Conditional Hard Reset C) preparatory reset D) B &C
Ans. D

10. One detection point Single section in
A) Block section B) IB C) Point Zone D)terminal lines / siding
Ans. D

11. Axle counter performance affected by
A) EMI/EMC B) Change of wheather C) Flooding D) cable parameters
Ans. D

12. In Digital Axle counter, minimum distance between two Transduces (DP) to be maintained is
A) 3 meters B) 2 meters C) 9 meters D) 5 meter
Ans.A

16. Axle counters is a substitute for
A) track circuits B) Block C) CLS D) AFTC
Ans. A

17. Initially Single entry/exit RDSO Mark-I model was introduced in
A) Srilankan Railway B) Indian Railways C) Konkan Railways D) Northern Railways
Ans. B

18. Two models of axle counters known as single entry/exit and Multi entry/exit axle counter are developed subsequently as RDSO Mark-II axle counter

Chapter - 02: UNIVERSAL AXLE COUNTER

01. ‚ÄúUNIVERSAL AXLE COUNTER‚Äù is universal system up to two entry / exit points of one section of
A) straight road B) Points zone portion C) Both D) None of these
Ans. A

02. ‚ÄúUNIVERSAL AXLE COUNTER‚Äù is universal system up to four entry / exit points of one section of
A) straight road B) Points zone portion C) A or B D) None of these
Ans. C

03. Axle counter requires, sleepers
A) wooden only B) PSC only C) wooden or PSC D) none of these
Ans. C

04. An axle counter system can cover a very long section up to
A) 15 Kms B) 12 Kms C) 5 Kms D) 45 Kms
Ans. A

05. Axle counter requires
A) Insulation joint B) Fish plate C) Gluid joints D) No insulation joint
Ans. D

06. Axle detector consists of
A) 1Tx and 2Rx coils B) 2Tx and 2 Rx coils C) 2Tx and 1 Rx coil D) A and B both

07. Transmitter coils are always fixed to
A) outer side of the rail B) Inside of the rail C) any side of the rail D) A or B
Ans.A

08. Track device uses technique for wheel detection
A) Amplitude Modulation B) Phase Reversal Modulation C) A or B D) both A & B
Ans.C

A) Amplitude Modulation B) Phase Reversal Modulation C) A or B D) both A & B
Ans.A

09. In case of Digital Axle Counters which Modulation technique is favored
A) Amplitude Modulation B) Phase Reversal Modulation C) A or B D) both A & B
Ans.B
10. In Analog Axle Counters all the required logics are achieved through

A) software B) hardware only C) none of these D) A and B
Ans.B

11. In Digital Axle Counters all the required logics are achieved through
A) software B) hardware only C) none of these D) A and B
Ans.A

12. For resetting the Axle counter system which reset shall not be provided
A) piloting B) conditional C) Direct Hard reset D) A and B
Ans.C

13. Trolley Suppression circuit is not required for which modulation techneque
A) Amplitude Modulation B) Phase Reversal Modulation C)both A & B D) none of these
Ans.B

14. Transmitter coils are energised by
A) Common oscillator B) Separate oscillator C) A&B D) A or B
Ans. D

15. The separation between two track devices of different axle counter system should be minimum of
A) 3 meters B) 2 meters C) 9 meters D) 5 meter
Ans.A

16. When a wheel passes between Tx and Rx coils, disturbs
A) frequency B) magnetic flux C) both a & b D) none of the
Ans.B

17. In UAC, input voltage to EJB and EV is
A) 24 V.DC B) 48 V.DC C) 60 V.DC D) 90V.DC
Ans. A

18. TX1 and TX2 coils are connected in ______________ Analog axle counter
A) series B) in Parallel and series C) in Parallel D) none
Ans. A

19. Rectified Voltage in CEL SSDAC
A) 2.2 V.DC B) 12 V.Dc C) 8 V.Dc D) 9 V.Dc
Ans. A

20. In UAC, Card -1 Output of all channels should be
A) 105 + 5v acx B)105- 5mv acx C)105 +/- 5mv acx D)105 +/- 5v acx
Ans. C

21. UAC can work for train speed upto
A) 250kmph B) 350kmph C) 300kmph D) 200kmph
Ans. D

22. In UAC, Transmitter signal (coil) frequency is __________
A) 21 kHz B) 23 kHz C) 31 kHz D) 5KHz
Ans. D

23. Preparatory reset can be used in case of the __________sections provided with axle counters.
A) Main line B) Section between Advance starter and IBS
C) Block Instrument and BPAC D) all of these.
Ans. D

24. In UAC, DC-DC converter output voltages are ____, _____ & _______
A) +5 V, +12V, +12V(ISO) B) +5 V, -12V, +12V(ISO)
C) +5 V, +10V, +10V(ISO) D) +5 V, -10V, +10V(ISO)

Ans. C

25. In Universal Axle counters, the minimum input channel voltage coming from EJB required at Evaluator CTB is _____ mv AC.
A) 1000 B) 150 C) 175 D) 1500
Ans. C

26. In UAC, Oscillator card output voltage & frequency is _________
A) 60 VAC & 5KHz B) 30 VAC & 5KHz C) 60VAC & 5Hz D) 30VAC & 5Hz
Ans. A

27. In UAC Receiver coil output voltage is __________
A) 0.7 to 1.0 V AC B) 60 VAC C) 1.0 to 1.2 V DC D) 105 to 110mv AC
Ans. A

28. In UAC Transmitter coil current is ____________
A) 100 milli Amps B) 3 to 5 micro Amps C) 420 milli Amps D) 420 micro Amps
Ans. C

29. In UAC Receiver card out put voltage is _______________
A) 1.2 to 1.5 V AC B) 60 VAC C) 1.2 to 1.5 V DC D) 105 to 110mv AC
Ans. A

30. In UAC, Dip voltage measured at the Receiver output coil shall be not more than ------ of its normal value.
A) 90% B) 10% C) 15% D) 85%
Ans. B

31. Minimum spacing between sleepers for fixing Tx / Rx is _______
A) 550 mm B) 200mm C) 800mm D) 400mm
Ans. A

32. Minimum length of Track circuit required for trolley protection on either side of a detection point in single Line section is __________________ mtrs
A) 5 Rail lengths B) 3 Rail lengths C) 8 Rail lengths D) 9 Rail lengths
Ans. A

33. Relays used for EVR & SUPR are of ______________ neutral line relays
A) QS3 type & 12V DC B) QS3 type & 24V DC
C) QN1 type & 12V DC D) QNA1 type & 12V DC
Ans. A

34. For connecting the output of electronic junction box to evaluator, the following cables are to be used depending upon the distance between the two and whether to be used in R.E. or non R.E. Area.
A) 4 quad axle counter cable as per specification No. TC-30 for RE & TC-31 for Non-RE
B) PET quad of main telecom cable as per specification No.TC-14/75
C) Polythene jelly filled telephone cable as per specification No.TC-41 /90.
D) All of these
Ans. D

Chapter -03:Single Section Digital Axle Counter – CEL make

1. SSDAC used with block working, type of reset used is ________
A) Direct Hard Reset B) Conditional Hard Reset

C) Preparatory Reset D) Any one these can be used
Ans. C

2. In SSDAC of CEL make, card no 5 is _________
A) Modem Card. B) Event Logger Card.
C) Micro controller Logic Board D) Relay Driver Card.
Ans. B

3. In SSDAC of CEL make, _______ no. of conductors required for connecting two SSDAC units.
A) 2 B) 4 C) 8 D) 10
Ans. A

4. In SSDAC of CEL make, card no1 is _________
A) scc1 B) Event Logger Card.
C) Micro controller Logic Board D) Relay Driver Card.
Ans. A

5. Baud rate of modem card in SSDAC of CEL is _________
A) 56KBPS B) 3000BPS C) 300 BPS D) 9600BPS
Ans. C

6. In SSDAC of CEL make, card no 2 is _________
A) Modem Card. B) SCC2
C) Micro controller Logic Board D) Relay Driver Card.
Ans. B

7. In SSDAC of CEL make, the function of the Micro-controller Logic Board card is
A) Wheel detection
B) Train direction is checking and Wheel counting.
C)Receives the remote wheel count and computes the status of the section for clear or occupied.
D) All of these
Ans. D

8. In SSDAC of CEL make, card no 3 is _________
A) MLB 1 B) Event Logger Card.
C) Micro controller Logic Board D) Relay Driver Card.
Ans. A

9. In SSDAC of CEL make, Input voltage of the DC-DC converter Card is
A) 12V DC B) 110V AC C) 24V DC D) 110V DC
Ans. C

10. In SSDAC of CEL make, card no 4 is _________
A) Modem Card. B) Event Logger Card.
C) Micro controller Logic Board D) MLB 2
Ans. D

11. In SSDAC of CEL make, output voltages of the DC-DC converter Card is
A) 5V DC & 12V DC B) 5V DC & 24V DC
C) Both A & B D) None of these
Ans. C
12. In SSDAC of CEL make, card no 6 is _________
A) Modem Card. B) Event Logger Card.
C) Micro controller Logic Board D) Relay Driver Card.
Ans. A

13. In SSDAC of CEL make, card no 7 is _________

A) Modem Card. B) Event Logger Card.
C) Micro controller Logic Board D) Relay Driver Card.
Ans. D

14. In SSDAC of CEL make, card no 8 is _________
A) Modem Card. B) Event Logger Card.
C) DC-DC conv D) Relay Driver Card.
Ans. C

15. Wheel of Dia more than _________ is detected By CEL SSDAC
A) 550 mm B) 400 mm C) 600 mm D) 330 mm
Ans. B

Chapter – 04:Single Section Digital Axle Counter – ALCATEL (ELDYNE) make

1. Baud rate in SSDAC of ELDYNE (AzLS) is __________
A) 56KBPS B) 3000BPS C) 300 BPS D) 9600BPS
Ans. C
2. In AzLS, EAK consists of ____________
A) Back plane B) Evaluator board C) Analog board D) all of these
Ans. D
3. The SSDAC of ELDYNE equipment is working
A) Phase modulation B) Amplitude modulation
C) Both D) None
Ans. A
4. The SK30H is fitted by __________ no of bolts to the web of the rail
A) 2 B) 3 C) 4 D) 5
Ans. B
5. The SSDAC of ELDYNE equipment compartable to the rail profile
A) 60kg, B) 52kg, C) 90paund D) all
Ans. D
6. ELDYNE equipment Each Tx/Rx head is equipped with fixed cables of __________ mtr length for connection to the electronic Junction box (EAK). Upon request,
A) 4 B) 5.5 C) 8 D) all
Ans. D
7. Messab voltage ranges from
A) 0-500mv B) 100-750mv C) 100-1000mv D) 80-1000m
Ans. D
8. Minimum distance 2m from neighbouring Rail Contact
A) 1 mtr B) 2 mtr C) 3 mtr D) 4 mtr
Ans. B

9. ELDYNE equipment Drilling the three holes of __________ diameter with drill machine.
A) 13 mm ± 0.2mm B) 12 mm ± 0.2mm C) 14 mm ± 0.2mm D) none
Ans. A

10. ELDYNE equipment Bit __________ indicates whether the corresponding evaluator card is monitoring a straight section or a point zone
A) 12 B) 13 C) 14 D) 15
Ans. C
11. ELDYNE equipment Bit __________ defines the counting direction corresponding to RCD (Reference Counting Direction)
A) 13 B) 14 C) 15 D) 16
Ans. C

12. ELDYNE equipment detects the diameter of the wheel more than __________
A) 250 mm B) 450 mm C) 500 mm D) 330 mm

Ans. D

13. ALCATEL SSDAC is not suitable in pointŝs zone track section having more than _______ detection points
A) 2 B) 3 C) 4 D) 5
Ans. B

Chapter-05 :Single Section Digital Axle Counter – GG TRONICS

1. Wheel of Dia more than _________ is detected By GGtronics SSDAC
A) 400 mm B) 550 mm C)330 mm D)300 mm
Ans. B

2. Provision for total _________ number of cards in GGtronics SSDAC
A) 8 B) 10 C)4 D)6
Ans. B

3. SSDAC-G36 units can be configured for the following applications:
A) 2DP1S B) 3DP1S C) 3DP2S D) All of these
Ans. D

4. SSDAC-G36 Rx Phase volage ranges
A) 10-12 V.DC B) 2-4 V.DC C) 20-24 V.DC D) 8-12 V.DC
Ans. A

5. SSDAC-G36 Under wheel condition Tx and Rx will be IN-PHASE Rx Voltage is
A) <10 mV B) <200 mV C) <100 mV D) <500 mV
Ans. C
6. SSDAC-G36 Communication between two SSDAC systems is through FSK communication at
A) 300bps B) 1200bps C) 9600bps D) 14400bps
Ans. B

7. SSDAC-G36 Communication between two SSDAC systems is through FSK communication with
A) V.21Modem B) V.22 Modem C) V.23 Modem D) V.24 Modem
Ans. C

8. SSDAC-G36 Transmitter voltage
A) 40-70 Vrms B) 30-70 Vrms C) 40-60 Vrms D) 30-60 Vrms
Ans. A

Chapter-06 : Multi Section Digital Axle Counter - ALCATEL make

1. MSDAC Alcatel support upto a track sections
A) 22 B) 32 C) 42 D) 24
Ans. D
2. MSDAC Alcatel support upto a track Detections (DP)
A) 23 B) 32 C) 43 D) 40
Ans. B
3. MSDAC Alcatel CPU configuration

A) 2oo2 B) 2oo3 C) A & B D) 1oo2
Ans. C

4. MSDAC Alcatel Power Supply Card configuration
A) 2oo2 B) 2oo3 C) both D) none
Ans. D

5. MSDAC Alcatel Serial Card receives information from detection points through
A) V.21Modem B) V.22 Modem C) V.23 Modem D) ISDN
Ans. D

6. MSDAC Alcatel One Serial Card can monitor maximum _________ detection points.
A) one B) two C) three D) four
Ans. B

7. MSDAC Alcatel One Parallel Card can monitor maximum _________ Section
A) one B) two C) three D) four
Ans. A

8. MSDAC Alcatel One PDCU Card can monitor maximum _________ DPs
A) one B) two C) three D) four
Ans. A

9. Recommended power supply for trackside electronic unit (EAK) for AzLM is _________
A) 54V DC to 72V DC B) 54V DC to 60V DC
C) 54V DC to90V DC D) 54V DC to 110V DC
Ans. A

10. The maximum transmission distance is _________ with PDCU
A) 4.5 KM B) 7.5 KM C) 10.5 KM D) 12 KM
Ans. C

11. The maximum transmission distance is _________ without PDCU(Local fed power supply)
A) 4.5 KM B) 7.5 KM C) 10.5 KM D) 12 KM
Ans. D

12. The maximum transmission distance with a good quality communication cable having maximum resistance of
A) 56 q/KM B) 65 q/KM C) 100 q/KM D) 120 q/KM
Ans. A

13. The maximum transmission distance is with a good quality communication cable having maximum capacitance of
A) 25nF/KM B) 60nF/KM C) 45nF/KM D) 100nF/KM
Ans. C

14. The power to the EAK goes through _________ fuse provided in PDCU and if it is blown then there will be no power at detection point and a red LED within the PDCU will glow.
A) 355mA B) 355mA C) 455mA D) 155mA
Ans. B

Chapter-07: Multi Section Digital Axle Counter - SIEMENS make

1. WDE with 43 kHz frequency generation.
A) 43 kHz B) 21 kHz C) 23 kHz D) 25 kHz
Ans. A

2. Az S 350 U One "Evaluation Computer"(EC) can be monitor upto _________ track sections directly.
A) 1 B) 3 C) 4 D) 5
Ans. C

3. One ŒEvaluation Computerô(EC) can be connected directly up to _________ detection points directly
A) 2 B) 4 C) 5 D) 6
Ans. C

4. Each ŒEvaluation Unitôcan be connected to two other ŒEvaluation Unitsôvia
A) V.21Modem B) V.22 Modem C) V.23 Modem D) V.23 Modem
Ans. D

5. Az S 350 U An overall system consisting of _________ evaluation computers
A) 1 B) 3 C) 4 D) 5
Ans. B

6. Az S 350 U an overall evaluation computers is able to process the signals of up to ____ wheel detectors per evaluation
A) 12 B) 13 C) 14 D) 11
Ans. D

7. Az S 350 U An overall evaluation computers is able to process the signals of up to _______ track vacancy detection sections per overall system
A) 13 B) 14 C) 15 D) 12
Ans. D

8. Az S 350 U Data transmission in between two ŒEvaluation Unitsôis without modem limited up to _________.
A) 30mtr B) 3mtr C) 30Kmtr D) none
Ans. A

9. Az S 350 Uby using modem for data transmission in between two ŒEvaluation Unitsôthe length of data transmission is
A) 25Kmtr B) 50Kmtr C) 30Kmtr D) unlimited.
Ans. D

10. Az S 350 U SIRIUS2 board. The maximum _____ ŒUser-Defined Informationôcan be transmitted.
A) 12 B) 13 C) 14 D) 11
Ans. A
11. The BLEA12 board is the input/output interface of the AZ S 350 U. It has _____ floating relay outputs
A) 13 B) 14 C) 15 D) 12
Ans. D
12. The BLEA12 board is the input/output interface of the AZ S 350 U. It has 12 floating Opto coupler inputs
A) 12 B) 15 C) 16 D) 13
Ans. A

13. Az S 350 U, the BLEA12 Configuring by means of _____ DIP switches
A) 96 B) 25 C) 44 D) 66
Ans. A

14. The SIRIUS2 board provides _____ serial, bidirectional interfaces for data transmission
A) 1 B) 2 C) 4 D) 5
Ans. B

15. WDE to VESBA two frequencies are send they are f1 and f2, f1=
A) 6.37 kHz B) 3.50 kHz C) 7.37 kHz D) 8.37 kHz
Ans. B

16. WDE to VESBA two frequencies are sends they are f1 and f2, f2 =
A) 6.37 kHz B) 3.50 kHz C) 7.37 kHz D) 8.37 kHz
Ans. A

Chapter-08: Multi Section Digital Axle Counter - CEL make

1. Multi-section Digital Axle Counter system consists of ______________
A) Detection Point
B) Central Evaluator Unit and Reset Unit
C) Relay Unit and Event logger and diagnostic terminal
D) All of these
Ans. D

2. In MSDAC, Central Evaluator unit drives _______ Vital Relay in order to give Free and occupied indication of an axle counter track section.
A) 24VDC, 1000 ohms Plug-in type
B) 12VDC, 1000 ohms Shelf type
C) 110VAC, 1000 ohms Plug-in type
D) None of these.
Ans. A

3. In CEL MSDAC, each Digital Axle counter field unit _____________
A) Is configured as one Detection point.
B) Detects wheels and store counts based on 2 out of 2 logic.
C) Transmits count and health information to Central Evaluator.
D) All of these
Ans. D

4. MSDAC 730CEL can connect up to _____ detections
A) 23 B) 33 C) 43 D) 40
Ans. D

5. MSDAC 730CEL can connect up to 40 track sections
A) 23 B) 33 C) 43 D) 40
Ans. D

6. MSDAC 730CEL can connect point zones having 2, 3, 4 and above up to _____ Detection point track sections.
A) 1 B) 2 C) 4 D) 8
Ans. D

ANNEXURE -1
Multi Section Digital Axle Counter - GG TRONICS make

1. GG Tronics MSDAC baud rate settings available from _____ in Serial port Mode.
A) 1600Bps to 19.2Kbps B) 2000 Bps to 19.2Kbps
C) 2500 Bps to 19.2Kbps D) 1200 Bps to 19.2Kbps
Ans. D

2. GG Tronics MSDAC Wheel detection at speeds up to _______
A) 150 Kmph B) 350 Kmph C) 450 Kmph D) 250 Kmph
Ans. D

3. GG Tronics MSDAC _______ Power supply arrangements available in CE.
A) 1 out of 1 B) 2 out of 3 C) 2 out of 2 D) 1 out of 2

Ans. D

4. GG Tronics MSDAC Interface to Electronic Interlocking (SSI) via high speed isolated
A) RS232 B) RS485 C) None D) both
Ans. D

5. GG Tronics MSDAC On 0.9 Sq mm Quad Cable, _______ with Centralized Power Supply 110 VDC
A) 5 Km's B) 8 Km's C) 7 Km's D) 3 Km's
Ans. D

6. GG Tronics MSDAC on 1.4 Sq mm Quad Cable, 6 Km's with Centralized Power Supply 110 VDC
A) 5 Km's B) 8 Km's C) 6 Km's D) 3 Km's
Ans. C

7. MSDAC-G39 Maximum Detection Points _______
A) 40 B) 35 C) 25 D) 50
Ans. A

8. MSDAC-G39 Wheel Dimension : =>
A) 400 mm B) 200 mm C) 500 mm D) 600 mm
Ans. A

9. GGTronics MSDAC monitor up to _______ sections
A) 60 B) 40 C) 75 D) 80
Ans. B

10. GGTronics MSDAC to MSDAC it can share up to _______ vital I/O
A) 20 vital logics B) 32 vital logics C) 16 vital logics D) 48vital logics
Ans. C

Objective Questions

Chapter 1 : Railway safety

1. The Indian Railways comprises the worldés ___________largest rail network under a single management.
   a) FIRST
   b) Second
   c) Third
   d) fourth (d)

2. The Indian Railways network transports about ____________million passengers
   a) 18
   b) 16
   c) 17
   d) 15 (a)

3. The Indian Railways network transports more than __________ million tons of bulk freight every day
   a) 3
   b) 2
   c) 1
   d) 4 (b)

4. _______________ is the slogan of Indian Railways
   a) safety
   b) safety first
   c) safety culture
   d) safety operation (b)

5. Indian Railways have been periodically getting its safety preparedness reviewed by expert committees
   a) judges
   b) chief judges
   c) chief judges of supreme court
   d) chief judges of high court (c)

6. Railway Accident Committee started in ____
   a)1962
   b) 1983
   c) 1964
   d) 1965 (a)

7. Railway Accident Inquiry Committee started in __________

a) 1968

b) 1987

c) 1934

d) 1967 (a)

8 Railway Accident Inquiry Committee started in _______

a) 1975

b) 1978

c) 1977

d) 1956 (b)

9. Railway Safety review Committee started in _______

a) 1989

b) 1990

c) 1998

d) 1975 (c)

10. Automatic clearance of Block Section has been provided through use of _________

a) AFTC

b) DCTC

c) AXLE COUNTER

d) TPWS (c)

Chapter-2: Railway Accidents

1. Failures of óRailway Equipmentôare also treated as technical and potential ______
   a) Failures
   b) Accidents
   c) Asset failures
   d) assets safely (b)

2. All types of collisions comes under the Categeory of ___
   a. Train accidents
   b. Yard accidents
   c. Equipment failures
   d. Indicative accidents (a)

3. Cases of fire and blasts comes under the Categeory of ______
   a) Train accidents
   b) Yard accidents
   c) Equipment failures
   d) Indicative accidents (a)

4. LC gate accidents comes under the Categeory of ______
   a) Train accidents
   b) Yard accidents
   c) Equipment failures
   d) Indicative accidents (a)

5. All types of derailments comes under the Categeory of_____
   a) Train accidents
   b) Yard accidents
   c) Equipment failures
   d) Indicative accidents (a)

6. Collision on obstruction or passing over obstruction but safe__________
   a) Train accidents
   b) Yard accidents
   c) Equipment failures
   d) Indicative accidents (a)

7. Averted collisions cases comes under the Categeory of_______
   a) Train accidents
   b) Yard accidents
   c) Equipment failures
   d) Indicative accidents (d)

8. Signal passing at danger (SPAD cases) comes under the Categeory of_____

a) Train accidents
b) Yard accidents
c) Equipment failures
d) Indicative accidents (d)

9. C&W, Loco failures comes under the Categeory of________
a) Train accidents
b) Yard accidents
c) Equipment failures
d) Indicative accidents (d)

10. Engg. department failures comes under the Categeory of______
a) Train accidents
b) Yard accidents
c) Equipment failures
d) Indicative accidents (c)

11. Electric department failures comes under the Categeory of____________
a) Train accidents
b) Yard accidents
c) Equipment failures
d) Indicative accidents (c)

12. S&T department failures comes under the Categeory of ____________
a) Train accidents
b) Yard accidents
c) Equipment failures
d) Indicative accidents (c)

13. Death of passenger or railway worker comes under the Categeory of____
a) Consequential Train Accidents
b) Yard accidents
c) Equipment failures
d) Indicative accidents (a)

14. Serious injuries to passenger or railway worker comes under the Categeory of_____
a) Consequential Train Accidents
b) Yard accidents
c) Equipment failures
d) Indicative accidents (a)

15. Loss of railway property more than 2 core comes under the Categeory of _______
a) Consequential Train Accidents

b) Yard accidents
c) Equipment failures
d) Indicative accidents (a)

16. Obstruction in rail traffic more than 24 hours comes under the Categeory of _______
a) Consequential Train Accidents
b) Yard accidents
c) Equipment failures
d) Indicative accidents (a)

17. Total failure of interlocking comes under the ____________
a. CLASS A
b. CLASSB
c. CLASS M
d. CLASS D (c)

18. Track circuit/axle counter failure comes under the ____________
a. CLASS A
b. CLASSB
c. CLASS M
d. CLASS D (c)

19. Block instrument failure comes under the _______
a. CLASS A
b. CLASSB
c. CLASS M
d. CLASS D (c)

20. Point machine failure comes under the ________
a. CLASS A
b. CLASSB
c. CLASS M
d. CLASS D (c)

Chapter 3: Disaster, Disaster Management

1. ___________ is the authorised officer to declare an accident as a Disaster.
a) DOM

b) Sr.DOM

c) Sr. DSTE

d) COM (d)

2. Accident as a Disaster. Such declaration will be issued to all concerned with the approval of ____________

a) GM

b) DRM

c) AGM

d) ADRM (a)

3. DDMP Divisional Disaster Management Plan is available in the form of booklet duly signed by ___________

a) AGM

b) DRM/ADRM

c) DRM

d) GM (b)

4. one-hour period is generally known as ___________

a) Silver Hour

b) Golden Hour

c) Diamond Hour

d) Platinium Hour (b)

5. If the accident is declared as a Disaster, all instructions as contained in _____

a) Disaster Management Plan

b) Disaster Management Team

c) Divisional Disaster Management Plans

d) Disaster Management (a)

6. DPM booklet is kept at control room, all depots, railway hospital and ___________

a) Railway station

b) SM Room

c) Booking office

d) Parcel office (a)

7. Aim of booklet is to inculcate safety habits in ___________ working

a) month to month

b) day to day

c) week to week

d) yearly (b)

8. DRM/ADRM &all safety officers are responsible for dissemination of _________

a) Disaster Management

b) Disaster Management Team

c) DDPM-Divisional Disaster Management Plan

d) First Responders (c)

9. DMP must be reviewed and updated in month of ____________ of every year

a) JULY

b) JUNE

c) JANUARY

d) DECEMBER (c)

10. Railway and non-railway resources available on the _____________

a) TRAIN

b) Platform

c) Station

d) Control room (a)

11. Railway and non-railway resources available on the train, and at nearby surroundings comes under the ___________

a) Resource Unit II

b) Resource Unit III

c) Resource Unit I

d) Resource Unit IV (c)

12. Railway resources available at ARME/ART depots and else where within the division comes under the ________.

a) Resource Unit II

b) Resource Unit III

c) Resource Unit I

d) Resource Unit IV (a)

13. Railway resources available at ARME/ART depots and elsewhere on adjoining Zones and Divisions comes under the __________

a) Resource Unit II

b) Resource Unit III

c) Resource Unit I

d) Resource Unit IV (b)

14. Non-railway resources available within or outside the division comes under the ____________

a) Resource Unit II

b) Resource Unit III

c) Resource Unit I

d) Resource Unit IV (d)

15. The Golden Hour must be consider at ___________ priority level during preparation of disaster management plan

a) LOW

b) High

c) medium

d) No (b)

16. The _______________ must include ówho is responsible for what activitiesôin detail

a) First Responders

b) Disaster Management Team

c) Disaster Management Plan

d) Disaster Management (c)

17. Earth quake, Flood, Cyclone, Volcanoes, Tsunami are Examples of _________

a) Railway Disaster

b) Natural disaster

c) Man made disaster

d) National Disaster (d)

18. Gas leakage, Nuclear leakage, Terrorist activity, Plane crash, Rail accidents are examples of ___________

a) Railway Disaster

b) Natural disaster

c) Man made disaster

d) National Disaster (c)

19. As per The ___________ñMinistries of Government of India shall be responsible for National Disaster Management

a) Disaster Management Act, 2010

b) Disaster Management Act, 2005

c) Disaster Management Act, 2008

d) Disaster Management Act, 2009 (b)

20. Disaster is an _________occurrence

a) Unusual

b) usual

c) ordinary

d) exceptional (a)

Chapter - 4: Accident Relief Measures & Duties

1. Accident Relief Trains are ____________

a) Breakdown Trains

b) ARME

c) SPART - Self Propelled Accident Relief Train and Tower wagon

d) All the Above (d)

2. The Breakdown trains are stabled with the __________ coupled together on such type of sidings.

a) Crane

b) Crane and Vehicles

c) Vehicles

d) Tower Wagon (b)

3. siding is with two exit ends one end óMedical Vanô will be the ________ and at other end óCraneô will be the ____________

a) First, second

b) First, First

c) second, First

d) Second, Second (b)

4. In case Siding _______ exit available , the medical van and the crane should be stabled nearest to the point of exit

a) TWO

b) Three

c) One

d) Four (c)

5. In __________ booklet the locations (station/division/headquarter) of the óBreak Down Trainsô are given with the telephone numbers of its óInchargesô

a) Disaster Management Plan

b) Disaster Management Team

c) State Executive Committee

d) Administrative Training Institutes (a)

6. ____________ tool vans are also available for use in emergencies

a) S&T

b) Engineering

c) Mechanical

d) Electrical (b)

7. All Safety and other concerned Officers must inspect breakdown trains and ARME must make a thorough inspection at least once in ___________ months

a) TWO

b) THREE

c) FOUR

d) SIX (b)

8. Rule books to be provided in relief trains are _________

a) General and Subsidiary Rules

b) Accident Manual.

c) Working Time Table

d) All the Above (d)

9. Accident occurred at Home station / marshalling yard, Medical relief not required Hooter will sound for 45 seconds ____________ times with a gap of 5 seconds

a) ONE

b) TWO

c) THREE

d) FOUR (b)

10. Accident occurred at out of home station Medical relief not required Hooter will sound for 45 seconds ____________ times with a gap of 5 seconds

a) ONE

b) TWO

c) THREE

d) FOUR (c)

11. Accident occurred at out of home station Medical relief is required Hooter will sound for 45 seconds ___________ times with a gap of 5 seconds

a) ONE

b) TWO

c) FIVE

d) FOUR (c)

12. Cancellation of ARMV / ART Hooter will sound for 90 seconds ___________ time only.

a) ONE

b) TWO

c) THREE

d) FOUR (a)

13. Single exit siding TARGET TIME FOR TURNING OUT THE MEDICAL VAN________

a) 20 Minutes

b) 30 Minutes

c) 40Minutes

d) 25 Minutes (a)

14. Double exit siding TARGET TIME FOR TURNING OUT THE MEDICAL VAN__________

a) 5 Minutes

b) 15 Minutes

c) 25 Minutes

d) 10 Minutes (b)

15. During Day TARGET TIME FOR TURNING OUT THE BREAK DOWN TRAINS/TOWER WAGON______

a) 20 Minutes

b) 30 Minutes

c) 40 Minutes

d) 35 Minutes (b)

16. During Night TARGET TIME FOR TURNING OUT THE BREAK DOWN TRAINS/TOWER WAGON

a) 45 minutes

b) 40 minutes

c) 55 minutes

d) 35 minutes (a)

17. FIRST INFORMATION FROM THE ACCIDENT SITE

a) Time and date of accident

b) Train No

c) Location

d) All the Above (d)

18. Central Control shall send a daily summary of the accidents/unusual to _______

a) CSO

b) DSO

c) DMO

d) COM (a)

19. At ___________ level, safety directorate shall issue the message and take follow up action

a) boardœs

b) Control Office

c) Headquarter

d) Safety Officer (a)

20. In case of an accident an _________ telegram is invariably is

a) nominated officer

b) concerned officers

c) All concerned

d) No officer (c)

21. When an accident is reported, it is the bound duty of every _________, to proceed to the accident site by the quickest possible means.

a) JE/SSE(S&T)

b) JE/SSE(SIGNAL)

c) JE/SSE(TELE)

d) JE/SSE(PWAY) (b)

22. On receipt of the information of the occurrence of an accident, the __________ shall proceed by the quickest available means to the scene of the accident

a) JE/SSE(S&T)

b) JE/SSE(SIGNAL)

c) JE/SSE(TELE)

d) JE/SSE(PWAY) (a)

23. The Sr.DOM and in his absence, _____________ the shall take charge of the control office

a) DOM/AOM

b) COM/DOM

c) COM/AOM

d) COM/COS (a)

24. It is necessary to preserve all clues for the ________ /accident enquiry committee

a) CRS

b) COS

c) COM

d) AOM (a)

25. At head quarters _________ shall disseminate such information to the press and electronic media

a) CPRO

b) PRO

c) COS

d) CRS (a)

Chapter- 5: Investigation and Examination

1. The senior most Official at site of the accident shall, submit a briefing note to the ________

a. DRM

b. ADRM

c. GM

d. AGM (a)

2. The _________ most Railway Officer at the site of accident shall be responsible for the general appraisal of the situation and to co-ordinate all work

a. Junior

b. Senior

c. most Junior

d. Junior grade (b)

3. Furnish a óPRELIMINARY REPORTôto ____________ by the quickest possible means

a. ASTE

b. Sr. DSTE

c. Sr.DSO

d. DSTE (b)

4. Preliminary Report should be followed with a óDETAILED REPORT should be submitted within a _________

a. Week

b. TWO Weeks

c. Three Weeks

d. four weeks (a)

5. óDETAILED REPORTôSHALL INCLUDE_________

a. List of damaged gears

b. List of requirements

c. List of replaced gears

d. all the above (d)

6. The position of the signal levers, point levers and block instruments should be immediately checked and recorded jointly with at least ____________ dept.

a. two

b. one

c. three

c. four (b)

7. The __________ Register Books should be signed so as to indicate the last entry made and then seized

a. relay

b. signal

c. train

d. point (c)

8. The distance between the two trains should be measured in ___________ in the case of averted collision

a. metres

b. centimetres

c. millimetres

d. decimeters (d)

9. Measurements of rolling stock should be taken as per __________ Manual.
   a. accident
   b. signal engineering
   c. C & W
   d. engineering (c)

10. The ________ must confront the Driver and Guard with regard to the position of the signal arm and position of the lever concerned
    a. Cabin man
    b. SM
    c. SS
    d) all the above (d)

11. Rolling stock which remains on track undamaged may be taken away after the written permission of the Senior __________ Official at the site.
    a. administrative official
    b. police
    c. personnel
    d. welfare (b)

12. REMOVAL OF UNDAMAGED ROLLING STOCK should be taken and stabled at the nearest convenient station further examination can be done under the supervision of the ___________
    a. ADME
    b. DME
    c. Sr. DME
    d. All the above (d)

13. Variation in the __________of buffers indicating twisted under frames
    a. length
    b. height
    c. breadth
    d. width (b)

14. The first __________ representative to arrive at site Examination of site and preparation of sketches
    a. S &T
    b. Engineering.
    c. Medical
    d. welfare (b)

15. __________ shall be responsible for maintaining Accident register and Accident charts and keeping these up to date.
    a. SM
    B. ESM
    C. JE
    D. SSE (a)

16. CHECK LIST FOR LOCOMOTIVE INVESTIGATION
    a. Thickness of bearings
    b. Thickness of sole plates.
    c. Side play of bearings
    d. ALL the above (d)

17. FOLLOWING DETAILS SHOULD BE RECORDED in the FAILURES OF SLEEPER
    a. Sleeper conditions
    b. Sleeper packing
    c. sleeper Connections
    d. ALL the above (d)

18. FOLLOWING DETAILS SHOULD BE RECORDED in the FAILURES OF RAIL
    a. Fractures
    b. Abnormal bend
    c. Vertical wear
    d. ALL the above (d)

19. FOLLOWING DETAILS SHOULD BE RECORDED in the TRACK GEOMETRY
    a. Gauge
    b. Creep
    c. Radius of curvature
    d. ALL the above (d)

20. FOLLOWING DETAILS SHOULD BE RECORDED in the BALLAST
    a. Ballast material
    b. Shape of ballast particle
    c. State of consolidation
    d. ALL the above (d)

Chapter- 6: Enquiries

1. All ‘Serious Accidents’ shall be enquired by the __________
   a) GM
   b) AGM
   c) CRS
   d) Railway board (c)

2. In case CRS or CCRS is not in a position to enquire into ‘Serious Accident cases the enquiry should be done at least by a committee of _________
   a) JA grade Officers
   b) SAG Officers
   c) HAG Officers
   d) senior grade officers (a)

3. All cases of óCollisionsô must be enquired into by a committee of SA Grade Officers unless the same is being enquired into by ____________

a) AGM

b) GM

c) CRS

d) HAG Officers (c)

4. All other óConsequential Train Accidentsô except unmanned level crossing accidents shall be enquired into by a committee of ______________

a) senior grade officers

b) SAG Officers

c) JA Grade Officers

d) HAG Officers (c)

5. Consequential unmanned level crossing accidents shall be enquired into by a committee of ____________

a) Junior Scale Officers

b) SAG Officers

c) JA Grade Officers

d) HAG Officers (a)

6. All other óTrain Accidentsô shall be enquired into by a committee of Senior or Junior scale Officers as decided by respective ____________

a) ADRM

b) DRMs

c) GM

d) CRS (b)

7. All óYard Accidentsô shall be enquired into by a committee of _______

a) Senior Supervisors

b) Junior Supervisors

c) senior grade officers

d) JA grade Officers (a)

8. All cases of óIndicative Accidentsô shall be enquired into by a committee of ________

a) Senior Supervisors

b) Junior Supervisors

c) senior grade officers

d) JA grade Officers (d)

9. ____________ Officer shall be one of the members of all Departmental Enquiry Committee

a) Safety

b) Welfare

c) Medical

d) Signal (a)

10. In case Safety officer in same grade as of the Enquiry Committee is not available in the Division, Safety Officer of ___________ may be nominated for the inquiry committee.

 a) one grade below

 b) two grade below

 c) one grade Above

 d) two grade Above (a)

11. All cases of œEquipment Failuresôshall be enquired into by ____________ of the respective department

 a) senior grade officers

 b) senior supervisors

 c) JA Grade Officers

 d) Junior supervisors (b)

12._________ shall be the accepting authority for these inquiries subject to the review by CSO

 a) DRM

 b) ADRM

 c) GM

 d) AGM (a)

13. Date of Accident model Time is _________

 a) D

 b) D+1

 c) D+7

 d) D+3 (a)

14 DRM /GM* shall order the inquiry, if no particular department accepts the responsibility model Time is

 a) D

 b) D+1

 c) D+7

 d) D+3 (b)

15. Committee shall convene the inquiry into the accident model Time is

 a) D+3

 b) D+2

 c) D+9

 d) D+5 (a)

16. Committee shall submit the inquiry report to DRM/GM*. model Time is __________

 a) D+4

 b) D+7

c) D+10

d) D+6 (b)

17. Acceptance of inquiry report by the DRM/GM* /Sr.DSO (only for yard accident) model Time is

a) D+5

b) D+10

c) D+9

d) D+7 (b)

18. Inquiry reports will be finalized by CSO/AGM. model Time is

a) D+6

b) D+11

c) D+10

d) D+15 (d)

19. DAR action against responsible officials to be completed

a) D+7

b) D+12

c) d+90

d) D+16 (c)

20. In the case of Driver passing Engineering stop Indicators or passing Fixed Signal at danger or running into Banner flags accident may be due to __________

a) regarding suspension

b) defective vision

c) subsequent enquiry

d) general evidence (b)

21. An ___________ conducting a Preliminary Enquiry is authorised to examine

a) Officer or Sr. Subordinate

b) Officer and Sr. Subordinate

c) Sr. Subordinate only

d) Officer only (a)

22. Normally the __________ shall order these detailed Enquiries for accidents

a) ADRM

b) DRMs

c) CSO

d) ADSo (b)

23. Enquiry committee will normally consist of __________officers from Safety, Electrical, Signalling, Operating, Mechanical and Engineering Department

a) THREE

b) two grade below

c) one grade one grade

d) FOUR (a)

24. In case of ___________ accident the representative of RPF should also be associated

a) Train

b) Fire

c) Yard Train

d) Derailment (b)

25. An enquiry must be held either at the place where the

a) nearest station only

b) only accident took place

c) accident took place or at the nearest station

d) any other place (c)

26. Every Accident to a train carrying passengers which is attended with loss of human life or grievous hurt as defined in the Indian penal code to a passenger or passenger in the train or with serious damage to Rly. Property of the value exceeding ___________

a) 2 crores

b) 3 lakhs

c) 4 crores

d) 3 crores (a)

27. CRS shall submit a confidential report in writing to the Chief Commissioner of Railway Safety and shall forward copies of the report to _____________

a) Railway Board;

b) Railway Administration

c) Other Commissioners of Railway Safety

d) ALL the above (d)

28. MAJOR JOINT ENQUIRY NOT NECESSARY AS UNDER When an enquiry is held by _______

a) CRS

b) CMO

c) CSTE

d) DRM (a)

29. The Enquiry must be held at the station nearest to the site of the accident and within ___________days after the accident

a) 3

b) 4

c) 5

d) 6 (a)

30. In the case of joint enquiries, it is to necessary for the members of the ________ to attend

a) Sub inspector

b) Magistrate and the police

c) Police only

d) Magistrate only (b)

31. The responsibility of ensuring correct reporting of accidents shall be with the _________ at Divisional level

a) DRM

b) ADRM

c) AGM

d) CRS (a)

32. The responsibility of ensuring correct reporting of accidents shall be with the ______ at the Zonal level

a) GM

b) ADRM

c) AGM

d) CRS (a)

Chapter- 7: Punishments Prescribed in Accident Cases

1. Staff directly held responsible for the accident.

a) óDôStaff

b) BôStaff:

c) CôStaff:

d) SôStaff: (a)

2. Staff who are found to have secondary responsibility for the accident.

a) óDôStaff

b) BôStaff:

c) CôStaff:

d) SôStaff: (d)

3. The penalty imposed will depend on the _________of their contribution to the accident

a) Degree

b) Disciplinary

c) authority

d) discretion (a)

4. Collisions involving a train Involving loss or not loss of human life Minimum Penalty
   a) Dismissal or Major penalties
   b) Removal from Service
   c) compulsory retirement
   d) Major penalties (a)

5. Averted collisions involving a train Minimum Penalty is
   a) Removal from Service or Major penalty
   b) Removal from Service
   c) compulsory retirement
   d) Major penalties (a)

6. Train passing signal at danger. Minimum Penalty is ______
   a) Removal from Service or Major penalty
   b) Removal or compulsory retirement
   c) compulsory retirement
   d) Major penalties (b)

7. Failure of Gateman to close the gate. Involving loss of human life. Minimum Penalty is _________
   a) Removal from Service
   b) compulsory retirement
   c) Dismissal.
   d) Major penalties (c)

8. Failure of Gateman to close the gate. Not Involving loss of human life. Minimum Penalty is
   a) Major penalties
   b) compulsory retirement
   c) Dismissal.
   d) Removal (d)

9. Derailment of passenger train Involving loss of human life. Minimum Penalty is
   a) Dismissal or Major penalties
   b) Minor penalties
   c) Compulsory retirement
   d) Major penalties (a)

10. Failure of Driver in observing rules before passing a gate signal in danger Minimum Penalty is
    a) Reduction to a lower grade with loss of seniority
    b) Reduction to a lower grade with out loss of seniority
    c) compulsory retirement
    d) Removal (a)

11. Station derailments while shunting: Due to Driverô fault. Minimum Penalty is
    a) WIT for 1year
    b) WIT for 2 years
    c) WIT for 4years
    d) WIT for 3 years (b)

12. Derailment of goods train on the main line, in mid-section or within station limits Minimum Penalty is Reduction to a lower timescale of Service
    a) Pay
    b) Grade
    c) Post or service
    d) All the above (d)

13. Derailment of goods train within station yard other than main line Minimum Penalty is
    a) Reduction of pay for 3 years without cumulative effect
    b) Reduction of pay for 3 years with cumulative effect
    c) Reduction of pay for 2 years with cumulative effect
    d) Reduction of pay for 2 years without cumulative effect (a)

14. Wrong setting/manipulation of points Minimum Penalty is
    a) Reduction to a lower grade with loss of seniority
    b) Reduction to a lower grade with loss of seniority
    c) Reduction of pay for 2 years with cumulative effect
    d) Reduction of pay for 2 years without cumulative effect (a)

15. Wrong marshalling Minimum Penalty is
    a) Reduction to a lower grade with loss of seniority
    b) Reduction to a lower stage in a time scale of pay
    c) Reduction of pay for 2 years with cumulative effect
    d) Reduction of pay for 2 years without cumulative effect (b)

16. Excessive/uneven loading or improper securing of loads Minimum Penalty is
    a) WIT upto three years
    b) WIT upto one year
    c) WIT upto four years.
    d) WIT upto two years. (a)

17. Reduction to lower stage in time scale of Pay for a period not exceeding 3 years, without cumulative effect. Item number of major penalty is
    a) V
    b) VII
    c) IX
    d) VI (a)

18. Reduction to a lower timescale of Pay, Grade, Post or Service Item number of major penalty is

a) VI

b) VII

c) IX

d) VIII (a)

19. Compulsory retirement Item number of major penalty is

a) VII

b) VIII

c) IX

d) VI (a)

20. Removal from Service Item number of major penalty

a) VIII

b) VII

c) IX

d) VI (a)

21. Dismissal from Service Item number of major penalty

a) IX

b) VII

c) IX

d) VI (a)

Chapter- 8: Few Accident Cases

1. Under block failure conditions, Trains were to be worked on paper line clear (PLC) by exchanging ______number through VHF sets

a) PN

b) AN

c) CN

d) DN (a)

2. Cable route markers shall be provided at every __________ Mts.

a) 300

b) 200

c) 400

d) 100 (b)

3. Relay room must be opened only after entering in the __________ Relay room key register

a) SS

b) SM

c) SMR

d) TI (b)

4. A written advice is to be sent by the _________ to the ESM regarding signal failure

a) Station Manager
b) Station Master
c) Traffic inspector
d) signal inspector (b)

5. __________ reports showed that the train no. 437 passed signal
a) MSDAC
b) protocol converter
c) Data logger
d) SSDAC (c)

6. Validation work of data logger done by
a) JE only
b) SSE only
c) JE/SSE
d) ASTE (c)

7. After any replacement or any change in AFTC track circuit, gain adjustment and checking of _______ is essential and compulsory.
a) ASR
b) TSR
c) UCR
d) TLSR (b)

8. On 09.04.09 in Kharsaliya - Derol section of WR, Up BCN/E dashed Auto Rickshaw at interlocked LC gate due to malfunctioning of gate signal. Action taken by railways
a) SSE/SIGNAL has been removed from service
b) JE/SSE/SIGNAL has been removed from service
c) ESM/SIGNAL has been removed from service
d) JE/SIGNAL has been removed from service (a)

9. On 26.5.09 at Takari station of CR, 1029 Koyan express derailed at point 109 while leaving from station due to point operation under the wheel due to incorrect wiring by S&T staff. Action taken by railways
a) Reduction to lower stage for the period of 7 months
b) Reduction to lower stage for the period of six months
c) Reduction to lower stage for the period of 8 months
d) Reduction to lower stage for the period of 5 months (b)

10. On 29.6.09 at Balugaon station of ECoR, three wagons of goods train derails at point 17B while starting from station due to two road of point due to interference by S&T staff. Action taken by railways
a) ESM has been permanently reverted to the post of Tech III.
b) ESM has been permanently reverted to the post of Tech II.
c) ESM has been permanently reverted to the post of khalasi
d) ESM has been Temporarily reverted to the post of Tech III. (a)

11. On 6.08.09 at Leharia Sarai station of ECR, Engine & SLR of Ex.0589A Jasidis ï Darbhanga Spl derailed while entering due to two Road of Point No. 17B due to interlocking failure Action taken by railways

a) SF-5 issued to JE/Signal & MCM

b) SF-5 issued to SE/Signal

c) SF-5 issued to SE/Signal & MCM

d) SF-5 issued to MCM (b)

12. On 21-10-09 at Mathura NCR station express 2779 Goa dashed to express 2964 on rear side- malfunctioning to S&T gears. Action taken by Railways

a) JE has been removed from service.

b) SSE has been removed from service.

c) ESM has been removed from service

d) MCM has been removed from service (c)

13. On 9.02.11 at Jaipur station of NWR, SLR & GS 12462 Mandore Exp. Derailed while entering station due to operation of point under wheel due to premature clearance of track circuit. Action taken by Railways

a) ESM are taken up for poor maintenance

b) JE are taken up for poor maintenance.

c) ESM and JE are taken up for poor maintenance.

d) ESM and JE are not taken up for poor maintenance. (c)

14. Signal technician and JE/SSE are the backbone of ______

a) Commercial

b) S&T

c) operating

d) mechanical (b)

15. Signal staff shall be created as per ___________ to avoid overburden of work.

a) yard stick

b) Operating staff

c) track circuit modified

d) Installation defect (a)

16. Comprehensive __________ for modern signalling equipments

a) BMC

b) CMC

c) PMC

d) GMC (c)

17. Change over Relay wiring can be done with ______%testing without resorting to disconnections.

a) 25

b) 50

c) 100

d) 10 (c)

Chapter 9 : First Aid, Ex-Gratia Payment, Communication

1. Injuries are classified as

a) Grievousôand óSimple

b) Grievousô

c) Simple

d) Emasculation. (a)

2. Injures as defined in Section _____________ of Indian Penal Code

a) 320

b) 120

c) 220

d) 420 (a)

3. Any hurt which endangers life, or which causes the sufferer to be, during the period of twenty days, in severe bodily pain or unable to follow his ordinary pursuits.

a) Permanent privation

b) Emasculation.

c) GRIEVOUS INJURIES

d) SIMPLE INJURIES (c)

4. Hospitalisation up to 30 days

a) Permanent privation

b) Emasculation.

c) GRIEVOUS INJURIES

d) SIMPLE INJURIES (d)

5. Injuries for a period of ______ hours after the occurrence of the accident.

a) 12

b) 24

c) 36

d) 48 (d)

6. EX- GRATIA is a ____________word

a) Greek

b) latin

c) French

d) English (b)

7. For the purpose of this section 124 ñpassengerò includes a _________ servant on duty

a) railway

b) Injured

c) Compartment

d) administration (a)

8. No compensation shall be payable under this section by the railway administration if the passenger dies or suffers injury due to:

a) Suicide

b) Self ï inflicted injury

c) Any natural cause or disease

d) All the above (d)

9. The accidental falling of any passenger from a train carrying passengers______

a) inflicted injury

b) ñUntoward incidentò

c) accidental falling

d) commission of robbery (b)

10. No ex-gratia is admissible to the____________

a) trespassers

b) person electrocuted

c) road users at unmanned level crossing

d) All the above (d)

11. Ex-gratia is also payable to the__________

a) rail servants killed

b) injured by the moving train while performing their duty

c) injured passenger during accident.

d) All the above (d)

12. In case of death ____________
    a) 15000/-
    b) 10000/-
    c) 12000/-
    d) 25000/- (a)

13. In case of grievous injury hospitalisation up to 30 days_________
    a) 6000/-
    b) 5000/-
    c) 4000/-
    d) 3000/- (b)

14. In case of grievous injury hospitalisation up to 6 months_________
    a) 6000/-
    b) 5000/-
    c) 4000/-
    d) 1000/- (d)

15. In case of grievous injury hospitalisation up to further 6 months _________
    a) 500/-
    b) 5001/-
    c) 4001/-
    d) 2000/- (a)

16. In case of grievous injury hospitalisation up to max period ________
    a) 11months
    b) 10 months
    c) 13months
    d) 12months (c)

17. In case of LC gate accidents In case of death __________
    a) 1000/-
    b) 2000/-
    c) 4000/-
    d) 3000/- (c)

18. In case of LC gate accidents In case of grievous injury _________
    a) 1500
    b) 1400
    c) 1200
    d) 1000 (a)

19. The Ex-gratia payment should be sanctioned /arranged preferably on the spot by an officer not less than a senior scale nominated by the _____________

a) GM

b) AGM

c) CRS

d) CSO (a)

20. _________ equipped telephone should be made available to passengers to communicate with their relatives

a) ISD

b) STD

c) LOCAL

d) All the above (b)

21. ____________ can hire a few cellular phones in case of passenger train accidents

a) SS

b) SM

c) TI

d) DSO (b)

22. _________ should prepare a map of the division showing the areas where cell phone is operative/ available

a) Sr. DSTE

b) DSTE

c) CSTE

d) ASTE (a)

23. _________ should set up machinery to hire sufficient number of cell phones for emergencies.

a) Sr DSTE

b) DSTE

c) CSTE

d) ASTE (a)

Chapter 1 : Data logger

1) Data logger is a ---------- based system

a) microprocessor

b) micro controller

c) digital

d) analog (Ans: a)

2) Data logger can be used to log the data of

a) PI installation only

b) EI only installation only

c) RRI installation only

d) PI/EI/RRI installations (Ans: d)

3) In data logger data means

a) Relay inputs

b) Analog voltages

c) Serial inputs of EI

d) All the other three (Ans: d)

4) For data logger ------ contact of a relay is used

a) front

b) back

c) front and back

d) any potential free (Ans: d)

5) Data loggers are used at stations /stations /yards, whereas in case of Auto section & IBH mini data logger known as ----- used

a) FEP

b) RTU

c) FAS

d) CMU (Ans : b)

6) All the data logger interfaces relay contacts through

a) modem card

b) digital input card

c) analog input card

d) communication card (Ans: b)

7) In datalogger 4 wirelesses modems shall be used if the serial communication

a) is more than 8 km b) less than 3km

c) more than 3km d) 2km (Ans: c)

8) Data logger is having a microprocessor ------------

a) M68000

b) M6832

c) M6890

d) M6846 (Ans : a)

9) Data logger can store up to -------- lakh packets

a) 100

b) 10

c) 15

d) 20 (Ans: b)

10) Datalogger scans relay inputs once in every ----- milli seconds

a) 15

b) 12

c) 16

d) 18 (Ans : c)

11) Datalogger scans analog inputs in -------

a) less than 2 sec

b) 5 seconds

c) less than 1 sec

d) 2 seconds (Ans: c)

12) The data logger time clock with internal battery backup will give a data retention up to

a) 13 years

b) 12 years

c) 14 years

d) 10 years (Ans: d)

13) The CPU board in Efftronics make data logger has -------- number of dip switches

a) 1

b) 2

c) 3

d) 4 (Ans: b)

14) The dip switches on CPU board are used to configure --------

a) Digital input capacity

b) Analog input capacity

c) Datalogger ID

d) both a & c (Ans: d)

15) Efftronics make data logger ID number starts from -----------

a) 63

b) 65

b) 64

d) 66 (Ans: b)

16) The data logger ID can be configured using a ------------

a) 8 way dip switch

b) 10 way dip switch

c) 4 way dip switch

d) 12 way dip switch (Ans: a)

17) The button on the CPU board front panel is used to -----

a) reset the modem

b) shut down power

c) refresh the display on CPU

d) reset the CPU (Ans: c)

18) Maximum ---------- relay inputs can be connected to one digital input card

a) 45

b) 48

c) 128

d) 64 (Ans: d)

19) Digital input cards are connected to mother board through ------- connectors

a) quad cable

b) tail cable

c) Flat ribbon Cable

d) multi core indoor cable (Ans: c)

20) Protocol converter is needed to connect data logger with

a) EI system

b) IPS

c) RTU

d) RRI (Ans: a)

21) The LED matrix on CPU board has -------------- number of LEDs

a) 580

b) 512

c) 564

d) 412 (Ans: b)

22) If power supply is disconnected

a) data logger continues to work

b) logged data is retained in memory

c) data logger will not receive data but sends data

d) only analog data is logged (Ans : b)

23) The seven segment LCD on CPU board displays

a) current time of data logger

b) analog input status

c) modem link status

d) digital input capacity of data logger (Ans: a)

24) Rating of DC-DC converter shall be 5A upto ------- digital inputs of data logger

a) 512

b) 1024

c) 256

d) 2048 (Ans: b)

25) Data logger modem is connected with ---- number of wires

a) 2 wires

b) 6 wires

c) 4 wires

d) 8 wires (Ans: d)

26) The type of Microprocessor used in Data logger is

a) M68000

b) M678500

c) M6800

d) M695300 (Ans: a)

27) Each analog scanner card interfaces ----- analog inputs

a) 12

b) 10

c) 16

d) 8 (Ans: d)

28) One analog scanner unit consists of --- number of analog scanner cards

a) 4

b) 2

c) 6

d) 5 (Ans: b)

29) Data logger is configured with a minimum of ---- analog inputs

a) 10

b) 12

c) 18

d) 32 (Ans: d)

30) Data logger is configured with a minimum of ------- digital inputs

a) 556

b) 275

c) 512

d) 1024 (Ans: c)

31) The analog scanner card which supports -------- channels has a micro controller in it

a) 1 to 8

b) 17 to 32

c) 8 to 16

d) 33 to 40 (Ans: c)

32) The data logger digital input capacity can be expandable up to ----- inputs

a) 4048

b) 4096

c) 4036

d) 4012 (Ans: b)

33) The data logger analog input capacity can be expandable up to ----- inputs

a) 16

b) 48

c) 75

d) 96 (Ans: d)

34) The data logger event Packet has ------ number of bytes

a) 12

b) 14

c) 13

d) 10 (Ans: a)

35) One analog event Packet is generated whenever the analog channel value changes beyond ------------ % of nominal value

a) 15

b) 12

c) 5

d) 10 (Ans: c)

36) The communication buffer can hold ----------- packets in its memory

a) 128

b) 100

c) 120

d) 180 (Ans: a)

37) The working voltage of data logger is ------ Volts DC

a) 48

b) 12

c) 24

d) 110 (Ans: c)

38) The data transmission speed between data logger and another data logger is -----

a) 57.6 kbps

b) 64kbps

c) 115kbps

d) 56 kbps (Ans : a)

39) Up to 1024 digital inputs the rating of DC-DC converter can be

a) 10A

b) 8A

c) 5A

d) 15A (Ans: c)

40) The data from networked data loggers first goes to -------

a) Front End Processor

b) Server

c) Central Monitoring Unit

d) LAN switch (Ans: a)

Chapter 2 : Train Protection & Warning System

1) The balise, not connected with data cable to LEU is

a) Infill balise

b) Fixed balise

c) Switchable balise

d) All types of balises (Ans: b)

2) TPWS equipment is of ETCS --------- level equipment

a) 0 level

b) level 1

c) level 2

d) level 3 (Ans: a)

3) One LEU can feed up to ------- number of balises

a) 1 b) 2 c) 3 d) 4 (Ans : d)

4) ------- number of relay front contacts can be wired as inputs to LEU

a) 5 b) 8 c) 10 d) 4 (Ans: c)

5) In TPWS the MA is updated as---------

a) Continuously

b) when loco pilot wants

c) Intermittently at balise location

d) control centre wants to do (Ans: c)

6) FS mode is achieved by TPWS when system switched on in level 0 and

a) Loco pilot wants

b) when loco passes the first group of balises

c) loco pilot switches on FS mode

d) system is isolated (Ans: b)

7) When SPAD occurs -------- are applied

a) Emergency brakes

b) no brakes

c) service brakes

d) both service & emergency brakes (Ans: a)

8) When ever speed of train is +5 kmph above permitted speed ------ are applied

a) Emergency brakes

b) no brakes

c) service brakes

d) both service & emergency brakes (Ans: c)

9) When the train approaches very near to stop signal at danger the driver should follow -----

a) 50kmph

b) release speed

c) 40kmph

d) any speed (Ans : b)

10) The infill balise is placed --------- meters in front of the signal

a) 100

b) 200

c) 400

d) 500 (Ans: d)

11) In ETCS level 1, the line side signals are --------

a) removed

b) not mandatory

c) required

d) in IR only removed (Ans: c)

12) In SR project --------- are applied, if switchable balise is missed

a) No brakes

b) service brakes

c) emergency brakes

d) service and emergency brakes (Ans : c)

13) If TPWS becomes faulty, the train can be worked as

a) by calling S&T

b) system can be isolated by loco pilot

c) by calling electrical department

d) at speed less than 20kmph (Ans: b)

14) In Auto section, the loco pilot can pass a signal at danger in ----- mode

a) Standby

b) Trip

c) Onsite

d) staff responsible (Ans : d)

15) When a signal is passed at danger ----- mode is set

a) Trip

b) Shunt

c) Onsite

d) staff responsible (Ans: a)

16) The release speed is set by -------

a) loco pilot

b) automatically by system when the train approaches a stop signal at danger

c) guard

d) control centre (Ans: b)

17) DMI stands for --------

a) Driver Machine interface

b) Developed mechanical interface

c) Double machine interface

d) driver modernized interface (Ans: a)

18) On board computer (OBC) is based on ---------- architecture in IR

a) single hardware software redundant

b) two out of two

c)two out of three

d) no redundancy (Ans : b)

19) The MA is transmitted in TPWS by ------

a) Radio block

b) switachable balise

c) fixed balise

d) infil and switchable balise (Ans: d)

20) TPWS is similar to

a) OBC

b) TCAS

c) ACD

d) TWAS (Ans : a)

21) On board system of TPWS consists

a) OBC

b) BTM & SDMI

c) wheel sensors

d) All the other three (Ans: d)

22) track side system of TPWS consists

a) a) LEU

b) Balise

c) both a & b

d) Radio block centre (Ans: c)

23) BTM generates ---------signal for transmission to track side

a) 24MHZ

b) 28MHZ

c) 25MHZ

d) 27MHZ (Ans: d)

24) On board antenna is provided

a) near the driver

b) in the LT room of cab

c) On the top of the cab

d) Under the cab (Ans: d)

25) The input data to be fed to OBC through DMI is

a) length of train

b) wheel diameter

c) deceleration factor

d) All the other three (Ans: d)

26) The BTM is mounted in the ---- of the cab

a) switch room

b) LT room

c) power room

d) relay room (Ans: b)

27) The on board computer takes input from

a) BTM

b) Speed sensor

c) all the other three

d) DMI (Ans : c)

28) DMI is having a ----- for various controls & data entry

a) set of buttons

b) set of switches

c) touch screen

d) All the rest (Ans: c)

29) The PIND module inside LEU is a

a) Power supply module

b) Input module

c) output module

d) processor module (Ans: b)

30) The PFSK module inside LEU is a

a) Power supply module

b) Input module

c) output module

d) processor module (Ans: c)

31) The LEU module works on ---------- volts DC

a) 24

b) 48

c) 60

d) 110 (Ans: b)

32) The TPWS has a total of------- type of packets for track to train transmission

a) 30

b) 38

c) 40

d) 45 (Ans: b)

33) Balise is programmed using ----------

a) Balise programmer verifier

b) palm held

c) Desk top PC

d) both a& b

34) Fixed balise is connected to----------

a) LEU

b) BTM

c) Antenna

d) none (Ans: d)

Chapter 3 : Train Collision Avoidance System (TCAS)

1) TCAS includes the functions of

a) TPWS

b) ACD

c) AWS

d) TPWS & ACD (Ans: d)

2) The on board system of TCAS consists

a) Radio antenna

b) GPS antenna

c) both a & b

d) BTM antenna (Ans: c)

3) Stationary TCAS unit is provided at

a) Stations

b) IBS

c) Mid section LC gates

d) At all the locations mentioned in a, b & c (Ans : d)

4) RFID tags are fitted -------

a) In the cab

b) under the cab

c) on the track

d) in track side location (Ans: c)

5) RFID tags provide

a) site specific static information

b) Site specific dynamic information

c) Both static and dynamic information

d) Movement authority (Ans: a)

6) TCAS uses ------- radio communication between stationary and locomotive units

a) Full duplex VHF

b) Half duplex VHF

c) Half duplex UHF

d) Full duplex UHF (Ans: d)

7) ----- number of frequencies are used for radio transmission in TCAS

a) 3

b) 2

c) 4

d) 6 (Ans: b)

8) Stationary TCAS unit transmits data on ------ frequency

a) f1

b) f2

c) f3

d) f1 & f2 (Ans: a)

8) Stationary TCAS unit receives data on ------ frequency

a) f1

b) f2

c) f3

d) f1 & f2 (Ans: b)

8) Locomotive TCAS unit transmits data normally on ------ frequency

a) f1
b) f2
c) f3
d) f1 & f2 (Ans: b)

8) Locomotive TCAS unit receives data normally on ------ frequency
a) f1
b) f2
c) f3
d) f1 & f2 (Ans: a)

9) The required communication range in TCAS is up to -------
a) 2.5km
b) 3km
c) 3.5 km
d) 4.5km (Ans: c)

10) In TCAS on track side ------ are provided
a) RFID tags
b) fixed balises
c) switchable balises
d) both RFID tags and balises (Ans: a)

11) In TCAS line side signals are
a) optional
b) not required
c) required
d) required only at stations (Ans: c)

12) TCAS is developed to meet the requirements of -------- standard
a) SIL 1
b) SIL 2
c) SIL 3
d) SIL 4 (Ans: d)

Chapter 4 : Auxiliary Warning System (AWS)

1) In AWS the opto coupler unit needs ------ supply

a) 12V DC

b) no supply

c) 24V DC

d) 110V DC (Ans: b)

2) The cable connecting the opto coupler unit with track magnet has ------- number of cores

a) 12

b) 10

c) 6

d) 8 (Ans: c)

3) The opto coupler unit establishes ------ loops in track magnet for each signal aspect

a) 2

b) 3

c) 6

d) 4 (Ans: a)

4) The auxiliary output cable of opto coupler consists

a) 4 cores

b) 5 cores

c) 6 cores

d) 3 cores (Ans: d)

5) The track magnet generates two of the ------ audio frequencies for each signal aspect

a) 8

b) 7

c) 10

d) 12 (Ans: b)

6) In AWS ------ frequency is used to detect the presence of track magnet on track side

a) 60 khz

b) 200 khz

c) 100 khz

d) 50 khz (Ans: d)

7) In AWS ------ frequency is used to transfer data from track magnet to on board

a) 60 khz

b) 200 khz

c) 100 khz

d) 50 khz (Ans: c)

8) The frequency range used in AWS is -----------

a) 2800 - 7600 hz

b) 2000 - 4000hz

c) 4000 - 6000hz

d) 5000 - 7000khz (Ans: a)

9) The 50KHZ & 100KHZ frequencies are generated in

a) Opto coupler unit

b) track magnet

c) Engine magnet

d) On board computer (Ans: d)

10) The track magnet is located at ----- distance from the right hand side rail

a) 231 mm

b) 431 mm

c) 251 mm

d) 351 mm (Ans: a)

11) The track magnet is located at least ----- sleepers away from rail joint

a) 5

b) 3

c) 4

d) 6 (Ans: b)

12) The permitted air gap between track magnet and engine magnet is -----

a) 200mm ï 250mm

b) 175 ï 225mm

c) 110mm ï 200 mm

d) 200 ï 300mm (Ans: b)

13) AWS is suitable to work in sections with speed up to ----- KMPH

a) 200

b) 150

c) 175

d) 250 (Ans : d)

14) The loco pilot has to acknowledge a buzzer alarm in --- seconds

a) 10 seconds

b) 2 seconds

c) 4 seconds

d) 6 seconds (Ans: c)

Annexure II & III : ERTMS/ETCS & ACD

1) In ETCS Level 0 --------- is monitored

a) Only speed supervision

b) line signal aspects

c) SPAD cases

d) both a & b (Ans : a)

2) In ETCS Level 1 line signals -------------

a) Are not compulsory

b) are compulsory

c) can be removed

d) only main line signals are needed (Ans: b)

3) Moving block system is possible in ETCS -----------

a) Level III

b) Level II

c) Level III & Level II

d) Level I & II (Ans: a)

4) ERTMS uses ------------ for communication

a) GPS

b) GSM

c) GSM (R)

d) Internet (Ans: c)

5) The LEU of ETCS Level I is provided ---------

a) on signal unit

b) nearer to signal

c) on board

d) under the cab (Ans: b)

6) -------- & --------- have the same function

a) Euro loop & Infill Balise

b) Euro loop & LEU

c) Euro loop & Radio infil unit

d) LEU & RBC (Ans : c)

7) In ECTS the STM of Onboard equipment stands for

a) site transmission module

b) signal transmission module

c) single transmission module

d) specific transmission module (Ans: d)

8) In ACD -------- is used for communication between locomotives

a) GPS

b) Radio frequency

c) GSM (R)

d) GPS & GSM (Ans: b)

9) In ACD -------- is used to track the location of train

a) GPS

b) Radio transmitter

c) GSM

d) Station ACD (Ans: a)

10) The main purpose of ACD is --------

a) To prevent collisions

b) To prevent derailments

c) To increase section speed

d) To pre warn loco pilots (Ans: a)

Objective Questions

Chapter 1 : Power Supply

1. Normal power supply for signalling installation shall be. (b)

   a) 415V b) 230V AC c) 110V AC d) 110V DC

2. In non railway electrified area power supply shall be drawn form. (c)

   a) Up AT b) Dn AT c) Stn. Feeder d) Solar panel

3. In Railway electrified are one of the following supplying shall act as a stand by source of power supply. (c)

   a) Up AT b) Dn AT c) Local power supply d) Generator

4. In Railway electrified area on single line section one of the following source are not used. (d)

   a) DG b) local supply c) single AT d) Dn AT

5. In Railway electrified area Primary supply for signalling installation shall be. (a)

   a) Main AT b) Generator c) local supply d) Generator 1

6. CLS Power panel provided in A.S.Mｓ room is provided by. (b)

   a) S&T b) Electrical dept c) DHR dept d) Operating dept

7. The grade of Power cable shall be. (d)

   a) 1200V b) 440V c) 230V d) 1100V

8. Size of power cable drawn from 10KVA transformer to CLS panel. (b)

   a) 2x25 sq mm at conductor b) 2x 70 sqmm at conductor

   c) 2x150 sq mm conductor d) 2x300 sqmm conductor

9. Capacity of the equipment under maximum load condition require at. (d)

   a) 1.3 times b) 1.4 times c) 1.2 times d) 1.5 times

10. AC supply for signal transformer shall be derived from a voltage regulate conforming to the specification. (b)

    a) IRS S-64/89 b) IRS S-74/89 c) IRS S-74/85 d) IRS -74/90

11. In battery room acid proof tiles to be fixed on ground and to wall height up to. (b)

    a) 1.4M b) 1.5M c) 1.6M d) 1.7M

12. Power supply to each circuit should be protected through HRC fuse of capacity. (d)

    a) 1.2 times b) 1.3 times

    c) 1.4 times d) 1.5 times of the rated requirement

13. Power distribution board shall be made of hylam sheet thickness. (c)

    a) 3mm b) 6mm c) 12mm d) 15mm

14. In Lead acid cell (LMLA type) the grade of dilute sulphuric acid used in. (b)

    a) IS:264 b) IS:266 c) IS:268 d) IS:269

15. The demineralised water to be added in Lead Acid cells conforming to (b)

 a) IS:1049 b) IS:1069 c) IS:266 d) IS:268

16. In non re area battery required for track circuit length for more than 100mts in plug in type 9ohms relay is (b)

 a) 2V b) 4V c) 6V d) 8V

17. In RE area battery required for track circuit length of 450mts for plug in type 9 ohms relay is (b)

 a) 4V b) 6V c) 2V d) 8V

18. In RE area battery required for tack circuit length of up to 750mts to plug in type 9ohms relay is (c)

 a) 4V b) 2V c) 8V d) 6V

19. Specification for battery charger used for charging LMLA cells is (a)

 a) 586-2000 b) 574-2000 c) 576-2000 d) 584-2000

20. Recommended capacity of charger used for battery capacity 120AH is. (c)

 a) 10A b) 20A c) 30A d) 50A

21. Specification for track feed battery charger is (a)

 a) S-89/93 b) S-76/93 c) S86/2000 d) S74/2000

22. Battery to be isolated form the load of output voltage goes (b)

 a) 1.7V/cell b) 1.8V/cell c) 1.9V/cell d) 2V/cell

23. Specification for integrated power supply (IPS) is (a)

 a) RDSO/SPN/165/2012 b) RDSO/SPN/187/2012

 c) RDSO/SPN/99/2012 d) RDSO/SPN/182/2012

24. Lightning protection for AC inputs lines given is (b)

 a) A type b) B type c) C type d) D type

25. The Satisfactory working voltage of IPS input supply is (d)

 a) 150-200V b) 150-175V c) 150-230V d) 150-275V

26) The Voltage drop in 230V AC feeding from Stn. To LC gate shall be (d)

 a) 7-8 V per Km b) 9-12 V per Km

 c) 13-14 V per Km d) 15-18 V per Km

27) Maximum permissible length of AFTC for end fed AFTC track ckt. is (d)

 a) 750 mts. b) 250 mts. c) 350 mts. d) 450 mts.

28) Maximum permissible length of AFTC for Central fed AFTC track ckt. is (d)

 a) 150-250 mts. b) 250-400mts. c) 360-450 mts. d) 450-700 mts.

29) Power requirement for devices used for Analog Axle counter i.e Evaluator, junction Box & resetting Box is (a)

 a) 21.6 - 28.8V Dc b) 19.2 - 24V Dc c) 24 - 26V Dc d) 28.8 - 30V Dc

30) For Universal Axle Counter for track circuiting in the yard, the junction box consumes a current of (c)

a) <100ma b) <150ma c) <250ma d) <350ma

31) For Universal Axle Counter for track circuiting in the yard, with a evaluator of ¾ device consumes a current of (b)

a) 1A b) 2A c) 3A d) 4A

Chapter 2 : Relay Room Equipment

1. Relay racks shall have space to accommodate relays for future alteration. (b)

a) 10% b) 15% c) 20% d) 25%

2. For LED light signals the ECR shall only be used is. (d)
   a) ON ECR b) OFF ECR c) Route ECR d) LED ECR

3. Where electronic timers are used they shall be of (b)
   a) single b) double c) triple d) Quadruple

4. Name of the relay should be written on. (d)
   a) Relay b) Relay Plug board (Rear Side)
   c) Frame (front side) d) all the three

5. Wiring of relay rack & various equipment shall be in accordance with the IRS specification. (a)
   a) S-23 b) S-76 c) S-74 d) S-92

6. Power supply extended from power distribution board to relay room shall be (c)
   a) 3/20 wire b) 25mm c) 10sq mm d) 7/20 wire

7. Power distribution with in relay room from rack to rack is done by using (a)
   a) 16/0.2 mm b) 3/20 wire c) 10Sq.mm d) 25 Sq.mm

8. Specification for 16/0.2mm single core, multi strand, flexible annealed tinned copper wire is (c)
   a) IS674 b) IS684 c) IS694 d) IS794

9. In case panel room is far away from relay room following cable to be from relay room to panel room. (c)
   a) 40 core b) 60 core c) Signalling cable d) 25 core

10. Total capacity of a rack with Max. Q-Style relays are. (b)
    a) 38relays b) 48relays c) 58relays d) 64relays

11. Total capacity of a rack with Max. K-50 relays are. (b)
    a) 48relays b) 50relays c) 60relays d) 32relays

12. Total capacity of a rack with Max.TMA type relays are. (c)
    a) 80 relays b) 70 relays c) 90 relays d) 120 relays

13. Fabrication of relay rack shall be as (a)
    a) 65x65x5 mm b) 55x55x5 mm c) 45x45x5 mm d) 35x35x5 mm

14. The clearance between two rows of relays on a rack is (c)
    a) 55 mm b) 65 mm c) 75 mm d) 85 mm

15. The clearance of relay rack from wall is (a)
    a) 90 cm b) 90 mm c) 80 cm d) 70 cm

16. Clearance of last row of relays from floor level on the relay racks shall be at least. (d)
    a) 300mm b) 400mm c) 500mm d) 600mm

17. Clearance of ARA terminals from floor level on the relay rack shall be. (a)
    a) 300mm b) 500mm c) 600mm d) 400mm

Chapter-3 : Installation practices for Location Boxes / Apparatus Cases

1. Location box available in S&T installation are. (d)

a) Full L.B b) half L.B c) Quartor L.B d) All the three

2. Minimum depth of the foundation signal location box below the ground level shall be (a)

a) 50 mm b) 100 mm c) 150 mm d) 200 mm

3. Bitumen to be applied are the bottom of location box to avoid (d)

   a) Ants b) Rodents c) snakes d) Corrosion

4. Foundation bolts used for erection of half/full location box (d)

   a) 8x300 mm b) 12x300 mm c) 16x200 mm d) 16x300 mm

5. For foundation of full location box mixture of cement, sand and stone chips (a)

   a) 1:3:6 b) 1:2:2 c) 1:2:3 d) 1:2:4

Chapter 4 : Signalling Cable: Planning & Laying

1. RDSO specification for outdoor signaling cable is (a)

   a) IRS S-63/89 b) IRS S-74/89

   c) IRS S-53/89 d) IRS S-83/89

2. Percentage of spare conductors provided in each main cable upto the farthest point zone (c)

a) 5% b) 10% c) 20% d) 30%

3. Percentage of spare conductors provided in each main cable from the outermost to outermost signals (b)

a) 5% b) 10% c) 20% d) 30%

4. Spare conductors to be kept spare if we use 3 conductor or less. (d)

a) 1 b) 2 c) 3 d) not required

5. IRS specification for screened cable shall be (a)

a) IRS S-35 b) IRS S-23 c) IS-1554 d) IRS S-74

6. Cable route plan prepared by S&T shall be approved by (d)

a) OHR b) Engineering
c) Electrical d) Engineering and electrical

7. In RE area when the cable is laid at a depth greater than 0.5m a minimum distance of cable from the OHR structure is (d)

a) 0.5m b) 1m c) 1.5m d) 3m

8. Where there are OHR structures along the cable route the cable trenches shall be (d)

a) 2.5mm b) 5mm
c) 4.5mm d) 5.5mm from center of the track

9. Cables to be laid beyond home signal, automatic signal area, IBH& level crossing gates at a depth of (c)

a) 0.8m b) 1m c) 1.2m d) 1.5m

10. The width of the cable trench shall normally be (c)

a) 300mm b) 450mm c) 500mm d) 550mm

11. Thickness of sand covered in the cable trench is (c)

a) 2ò b) 4ò c) 6ò d) 8ò

12. The power cables must not be laid in the same trench along with signaling cables (d)

a) electrical Dept b) Telecom of BSNL
c) OHE d) All the three

Chapter 5 : IRS Type Point Machine

1. To fix point machine on PSC sleepers diameter of the drill bit to be used for making holes is _________ (b)

a) 20.5 mm dia b) 21.5 mm dia c) 22.5 mm dia d) 19.5 mm dia

2. To fix point machine on sleepers the diameter of bolt is ___________ (a)

a) 20 mm b) 19 mm c) 21 mm d) 22 mm

3. Points shall be checked for proper housing of switch rail with stock rail for not less than __________ (d)

   a) 2 sleeper b) 3 sleeper c) 4 sleeper d) 5 sleeper

4. The actual distance behind the toe of the switch towards SRJ shall be within the limits of nominal track gauge. (b)

   a) 10 mm b) 15 mm c) 20 mm d) 25 mm

5. Point machine ground connection rods shall be clear of the bottom of the rail (a)

   a) 25mm to 40mm b) 15mm to 30mm

   c) 10mm to 25mm d) 20mm to 30mm

6. From the toe of the closed switch 5 mm obstruction test piece is placed at a distance of (d)

   a) 110 mm b) 220 mm c) 143 mm d) 150 mm

7. Normal cross protection in point machine is made when the point is not in (a)

   a) Normal b) Reverse c) Normal &Reverse d) In the middle

8. Reverse cross protection in point is made when the point is not in. (b)

   a) Normal b) Reverse c) Normal & Reverse d) In the middle

9. With 1.6 mm test piece between stock rail & switch rail at 150 mm from toe of the closed switch ensure (d)

   a) Detection contact make b) Detection contact broke

   c) Lock entered d) Lock entered& detection made

10. With 5mm test piece between stock rail & switch rail at 150mm from toe of the closed switch ensure that (d)

    a) Detection contact make b) Lock entered

    c) Lock entered & Detection made d) Lock not entered & detection not make

11. Friction clutch should be adjusted for slipping current ________ (d)

    a) 1-3 times b) 2-4 times c) 1.5 ï 3 times d) 1.5- 2 times

12. In RE area the maximum permissible length of parallelism between point contactor and point motor in single line is_______ (d)

    a) 1100 m b) 1000m c) 800 m d) 910 m

13. In re area the maximum permissible length of paralleling between point contactor and point motor in double line is.__________ (d)

    a) 910 m b) 800 m c) 1000 m d) 1100 m

14. The value slipping current of friction clutch is_______ (b)

    a) 2-3 Amps b) 3-5 Amps c) 4-6 Amps d) 5-6 Amps

15. The periodicity of track locking shall be __________ (a)

    a) 1 month b) 2 month c) 3 month d) 4 month

16. Check insulation of point cables with 500V megger once in (c)

a) a month b) once in 3month c) once in 6month d) once in a year

17. The periodicity of pouring lubricating oil SAE30 through into the reservoir for lubrication gear box of the motor is.______ (b)

a) a month b) once in 3month c) once in 6month d) once in a year

18. Commutator of the point machine shall be cleaned with (d)

a) White paper b) Cotton cloth c) Hand kerchief d) Chamois leather

19. The no of spindle oil drops to be routed on the helped spring guide of contact assembly (d)

a) 2 drops b) 3 drops c) 4 drops d) 5 drops

20. Specification for all temperature grease is________________ (d)

a) IS207/208 b) IS307/308 c) IS407/408 d) IS507/508

21. For conventional point layouts the clearance at junction of rail head (JOH) (b)

a) 25-40 mm b) 35-45 mm c) 40-45 mm d) 60 mm

22. For 220mm throw IRS point machine with clamp type lock arrangement the clearance at junction of rail head (JOH) is (c)

a) 50 mm b) 40 mm c) 60 mm d) 30 mm

23. Opening of tongue rail at the toe with thick web switches is_______ (d)

a) 115 mm b) 118 mm c) 143 mm d) 160 mm

24. The distance between centre to centre of sleeper no 3 & 4 for fixing universal point machine is (a)

a) 685 mm b) 700 mm c) 710 mm d) 745 mm

25. The distance between centre to centre of sleeper no 3 & 4for fixing thick web switch with 220mm stroke point machine. (d)

a) 685 mm b) 750 mm c) 710 mm d) 745 mm

26. The stroke of the universal point machine is. (b)

a) 220 mm b) 143 mm c) 132 mm d) 120 mm

27. The stroke of the point machine used with clamp lock arrangement. (b)

a) 143 mm b) 220 mm c) 132 mm d) 120 mm

28. Point machine to be fixed on between sleeper no. (c)

a) 1 & 2 b) 2 & 3 c) 3 & 4 d) 2 & 4

29. Distance between running face of rail and centre of the point machine is (d)

a) 1010 mm b) 1020 mm c) 1030 mm d) 1050 mm

30. Initial opening of the switch rail at the toe shall be (b)

a) 100 mm b) 115 mm c) 118 mm d) 120 mm

31. The gap between the anti raising bar and bottom of the rail shall be (a)

a) 1.5mm to 3mm b) 1.5mm to 2mm c) 1.5mm to 4mm d) 1mm to 1.5mm

Chapter 6 : Lightning And Surge Protection

1. Proper grounding and surge protection of electronic installation for providing protection to (c)

   a) Personnel
   b) equipment
   c) personnel &equipment
   d) other equipment

2. For personnel protection equipment chassis & rack body is connected to (b)

   a) each other
   b) ground
   c) not grounded

d) ground resistance >10ohms

3. IEC stands for (d)
   a) electromagnetic compatibility
   b) electromagnetic interference
   c) Institute of electrical and electronic engineers
   d)International electro technical commission

4. Length of the earth rod used for earthing is (d)
   a) 3ft b) 6ft c) 8ft d) 10ft

5. The size of the bit used for auguring for providing earth rod is (c)
   a) 4ò b) 6ò c) 8ò d) 10ò

6. A trench made between all rod holes is of size (D X W) (a)
   a) 24òx12ò b) 12òx12ò c) 24òx24ò d) 12òx24ò

7. The distance between adjacent earth rods shall not be exceeding the driven depth of ________ (a)
   a) Twice b) Triple c) quadruple d) single rod length

8. Copper tape size to be used for earth conductor from equipment room to the low voltage earth is (c)
   a) 1x25 mm b) 2x25 mm c) 3x25 mm d) 4x25 mm

9. The magnitude and duration of the current in LPZ0A zone is (b)
   a) 50KA:8/20 M.sec b) 100KA:10/350 M.sec
   c) 10KA:1.2/50 M.sec d) 10KA:1.2/50 M.sec

10. The magnitude and duration of the current in LPZ0B zone is (a)
    a) 5KA:8/20 M.sec b) 100KA:10/350 M.sec
    c) 50KA:1.2/50 M.sec d) 10KA:1.2/50 M.sec

11. The rating of SPD for 10/350M.sec wave form peak current of protection class 1 is (a)
    a) 200 b) 150 c) 100 d) 80

12. The rating of SPD for 10/350M.sec wave form peak current of protection class 2 is (b)
    a) 200 b) 150 c) 100 d) 80

13. The rating of SPD for 10/350M.sec wave form peak current of protection class 3 & 4 is (c)
    a) 200 b) 150 c) 100 d) 80

14. In AC line feeds primary protection begins at the (a)
    a) service entrance b) equipment c) on SMR d) on AVR

Chapter 7 : Axle Counters (Universal & Digital)

1. Axle counter are always be got installed through (c)

   a) Department b) contractor c) Manufacturer d) Construction wing

2. In axle counter section track section to be controlled through (d)

   a) Track circuit b) Single entry c) Multi entry d) single or multi entry

3. The track section controlled through a single entry or multi entry axle counter must be longer then (d)

   a) 100mm b) 150mm

   c) 250mm d) Maximum wheel base of the train

4. In digital axle counter a max. of detection points cab be assigned to a track section (d)

   a) 1 b) 2 c) 3 d) 4

5. In digital axle counter a maximum of track section may be assigned to one detection point. (b)

a) 1 b) 2 c) 3 d) 4

6. In digital axle counter section the following to be indicated in the signalling plan. (d)

a) conditional hard rest b) Line verification box

c) Detection point d) All the three

7. Trolly suppression track circuit shall be provided for analogue axle counter in the section. (d)

a) where trolly are used

b) prevent operation of axle counter by immolated wheels

c) Track circuit shall be close type

d) All the three

8. For trolly suppression track circuit the relay used are (d)

a) shelf type track relay b) shelf type line relay

c) plug in type track relay d) plug in type line relay or track relay

9. The distance between track device and insulation joint/glued joint when the speed of the train is 160kmph (d)

a) 13.8m b) 16.6m c) 19.5m d) 22.2m

10. On electrical section in case of track circuit the minimum distance of rail inductor and the nearest block joint is (d)

a) b) 10m c) 15m d) 20m

11. For axle counter section feeding with RPS module peak to peak noise voltage shall be (a)

a) 50 mv b) 100 mv c) 150 mv d) 200 mv

12. The normal load of 2D axle counter including EJB is (c)

a) 1A b) 2.5A c) 1.5A d) 2A

13. The normal load of a 4D axle counter is (d)

a) 1A b) 2.5A c) 3A d) 2A

14. The capacity of maintenance for batteries shall be in non RE area. (c)

a) 80AH b) 120AH c) 200AH d) 300AH

15. The capacity maintenance for batteries shall be in RE area. (b)

a) 80AH b) 120AH c) 200AH d) 300AH

16. Conductor required from EJB to axle counter evaluator for single section analogue axle counter (c)

a) 2 b) 3 c) 4 d) 5

17. If the distance for EJB to evaluator is more than 2kms additional conduction to be added to each channel (a)

a) 2 b) 4 c) 6 d) 8

18. The double line block system with universal axle counter and multiplexer requires quad cable for the block operation. (b)

a) one quad b) one and half quad

c) two quads d) 3quads

19. For SSDAC the maximum length of section is limited to a transmission loss of (c)

a) 4db b) 15db c) 20db d) 40db

20. The type of quad cable for axle counter shall be as re IRS (a)

a) TC30 b) TC40 c) TC50 d) TC60

21. The sleeper spacing at the track devices location fixed on rail clamps should be minimum (c)

a) 350 mm b) 450 mm c) 550 mm d) 650 mm

22. Rails on which track devices are fixed shall be badly warm out beyond for 52kg rails (c)

a) 4 mm b) 6 mm c) 8 mm d) 10 mm

23. The track device of different axle counter system should be separated by (d)

a) 1 to 2M b) 2M to 3M c) 3M to 4M d) 3M to 5M

24. Rails on which track device are fixed shall not be badly worm out beyond for 60 kg rails (d)

a) 4 mm b) 6 mm c) 8 mm d) 13 mm

25. A cable separation between transmitter and receiver. (c)

a) 300 m b) 400 m c) 500 m d) 600 m

26. Rail deflection shall be provided on either ride of transmitter/receiver at (a)

a) 30 cms b) 20 cms c) 50 cms d) 60 cms

Chapter 8 : Signals and Miscellaneous Equipment

1) Signal sighting committee consists of officials (d)

a) S&T & Optg b) S&T & electrical

c) Optg & electrical d) signal, traffic & mechanical

2) The height of the normal aspect of a signal from rail level (c)

a) 3m b) 3.25m c) 3.65m d) 6.05m

3) Distance between adjacent track centres in straight portion shall be minimum for new line (d)

a) 2.36m b) 3m c) 4.72m d) 5.3m

4) Location of Signal ensuring minimum clearance from immediate adjacent track centre is (b)

a) 2.16m b) 2.36m c) 3m d) 4.72m

5) On Platform Signal post clearance from centre of adjacent track is (d)

a) 2.16m b) 2.36m c) 3m d) 4.72m

6) Normal height of the Contact wire in RE area (d)

a) 4.02 m b) 4.58m c) 7.05m d) 5.6m

7) The normal height of the catenary at its highest point is (c)

a) 4.02 m b) 4.58m c) 7.05m d) 5.6m

8) Iron screening to be provided in 25kv if live conductor is within a distance any portion of a signal post or its fitting (b)

a) 1m b) 2m c) 3m d) 4m

9) The distance between the traction mast and Signal post shall not be less than (c)

a) 10m b) 20m c) 30m d) 40m

10) No part of a signal post without route indicator shall normally be higher than rail level (b)

a) 3.65m b) 5.2m c) 4.72m d) 4m

11) Minimum visibility of a Distant Signal shall be (d)

a) 100m b) 200m c) 300m d) 400m

12) Minimum visibility of a inner Distant Signal shall be (b)

a) 100m b) 200m c) 300m d) 400m

13) All Stop Signals shall have minimum visibility of (b)

a) 100m b) 200m c) 300m d) 400m

14) The size of the ballast to be used for erection of a Signal post (c)

a) 12x25 mm b) 12x12 mm c) 25x25 mm d) 10x25 mm

15) The Size of the anchor bolts to be used for erection of a Signal post (d)

a) 25x500mm b) 25x600mm c) 25x800mm d) 25x900mm

16) Type of route indicator in a station yard in a necessarily be of type (d)

a) Stencil type b) Multi lamp type

c) Junction type d) May be Combined

17) The diameter of the lens of Red/Green/Yellow aspects is (c)

a) 92mm b) 127mm c) 140mm d) 213mm

18) The diameter of the lens of white lens for stop signal is (d)

a) 92mm b) 127mm c) 140mm d) 213mm

19) The diameter of the outer lens of route indicator & direction type indicator is (b)

a) 92mm b) 127mm c) 140mm d) 213mm

20) The diameter of the inner lens of route indicator & direction type indicator is (a)

a) 92mm b) 127mm c) 140mm d) 213mm

21)Point and trap indicator target type having Red/Green/Lunar white is of dia. (b)

a) 92 mm b) 101mm c) 127mm d) 213mm

22) for unused erected signal post a cross made of wood of following dimensions to be provides (a)

a) 50X1000mm b) 50X100mm c) 50X150mm d) 50X500mm

23) The rating of the bulb for Calling-On Signal is (a)

a) 110V/25W b) 110V/5W c) 110V/75W d) 110V/100W

24)A Signal lamp must be tested for (a)

a) 45Hrs. b) 40hrs c) 35hrs d) 30hrs

25) The rating of the Signal lamp need in CLS type SL 35B (d)

a) 12/4W b) 12/12W c) 24/24W d) 33/33W

26) Rating Volts of signal lamp type SL 21 in CLS area for Main /Auxiliary filaments (a)

a) 12V/16V b) 16V/12V c) 12V/12V d) 12V/4V

27) Glow Voltage of 2.3V on secondary side of Signal transformer when voltage on primary side is equivalent to (c)

a) 12V b) 24V c) 21V d) 20V

28)Length of parallelism permitted in 21 V on double line per Kilo meter is (b)

a) 180m b) 220m c) 230m d) 200m

29) Length of parallelism permitted for 21 V on Single line per Kilo meter is (a)

a) 180m b) 220m c) 230m d) 200m

30) On double line Maximum permissible length of parallelism for internal circuit with QNA1 relay (d)

a) 2.1Km b) 1Km c) 1.2Km d) 2.8km

31) on single line maximum permissible length of parallelism in internal circuit with QNA1 relays (a)

a) 2.1Km b) 1Km c) 1.2Km d) 2.8km

32) On single line maximum permissible length of parallelism in external circuit with K-50 relay (a)

a) 0.75 km b) 0.9 km c) 1 km d) 1.2km

33) The life of a SL35BL (longer life) is (b)

a) 1000hrs b) 5000hrs c) 2000hrs d) 3000hrs

34. Specification for LED signals is RDSO/SPN (a)

a) 153/2012 b) 99/2012 c) 164/2002 d) 165/2002

35. In case of non availability of LED ECR conventional ECR of Siemens metal is if place (b)

a) on metal to metal b) Off metal to metal

c) route metal to metal d) shunt metal to metal

36.In case of non availability of LED ECRs conventional ECR OF CG&H/D hytronics make use in its place (a)

a) on metal to carbon b) off metal carbon

c) route metal to carbon d) stick metal to carbon

37 .In LED type route indicate signal route ECR shall pick up for no of aspects lit (b)

a) 2 b) 3 c) 1 d) 6

38. Anchor bolt required for fixing shunts signal posts (c)

a) 20mmx50mm b) 25mmx150mm

c) 20mmx450m m d) 25mmx450mm

39) The size of anchor bolt used for fixing pedestal of a lifting barrier (b)

a) 20mmx450 mm b) 25mmx900mm

c) 20mmx900mm d) 25mmx450mm

40. The size of anchor bolt rod to be used for lifting barrier winch mechanism in size (a)

a) 20x450mm b) 25x300mm

c) 20x300mm d) 25x900mm

41. which for operation of lifting barrier shall be located at a distance not less than (b)

a) 100m b) 150m c) 175m d) 200m

42. when the gate is closed to road traffic clearance between road surface and the boom shall be (a)

a) 0.8to 1m b) 0.7to 09m c) 0.6 to 0.8m d) 0.9to 1m

43 .The size of the alternate black and yellow colour bands painted on a boom is of width (a)

a) 300mm b) 250mm c) 200mm d) 15mm

44. Lifting barrier shall be capable of operating voltage satisfactorily between the limits (a)

a) 75%-125% b) 50%-75% c) 25%-50% d) 75%-100%

45. Direct feeding of signal with screened cable on a single line track is (d)

a) 180mm b) 220mm c) 500mm d) 600mm

Chapter 9 : Installation & Maintenance of D.C track circuit and AFTC

1. The B type choke used in DC track circuit is of specification (a)
   a) S65/83
   b) S89/93
   c) S40/84
   d) S30/84
2. The Bond wire used in Track circuited portion of rail joints for through rails is (d)
   a) 4SWG
   b) 5SWG
   c) 6SWG
   d) 8SWG
3. Approved battery charger 110v Ac/5-12v DC 5A capacity as per RDSO spec shall be used (a)
   a) S89/93
   b) S65/83
   c) S40/84
   d) S30/84

4. Feed end and Relay End Track lead junction Boxes shall be provided from track centre at a distance of (a)
   a) 2.5 m
   b) 1.5m
   c) 2m
   d) 5m
5. The size of the conductors used for supply to track circuit in DC track circuit area from the location box is of size (a)
   a) 2.5 Sqmm
   b) 25 Sqmm
   c) 1.5 Sqmm
   d) 0.6 Sqmm
6. In track circuited area insulated rail shall be kept clear of ballast by (b)
   a) 25mm
   b) 50mm
   c) 30mm
   d) 40mm
7. Type of pandrol clip used in glued joint to prevent shorting of rail foot to the fish plate (b)
   a) I type
   b) J type
   c) K type
   d) L type
8. Percentage of insulated liners/pad to be ensured for availability in track circuited area is (a)
   a) 97%
   b) 87%
   c) 70%
   d) 60%
9. PSC sleepers used in track circuited area must be tested by measuring resistance between insert to insert and the value is (b)
   a) 400 ohms
   b) 500 ohms
   c) 300 ohms
   d) 200 ohms

Objective Questions

Chapter 1: Basics of Signalling

1) Indications For Caution Aspect in Three Aspect Signaling Territory
   A. Yellow
   B. Green
   C. Red
   D. Double Yellow **Ans: A**

2) Indications for Proceed in Three Aspect Signaling Territory
   A. Yellow
   B. Green
   C. Red
   D. Double Yellow **Ans: B**

3) Indications for Dead Stop in Three Aspect Signaling Territory
   A. Yellow
   B. Green
   C. Red
   D. Double Yellow **Ans: C**

4) Indications For Caution Aspect in Four Aspect Signaling Territory
   A. Yellow
   B. Green
   C. Red
   D. Double Yellow **Ans: A**

5) Indications for Proceed in Four Aspect Signaling Territory
   A. Yellow
   B. Green
   C. Red
   D. Double Yellow **Ans: B**

6) Indications for Dead Stop in Four Aspect Signaling Territory
   A. Yellow
   B. Green
   C. Red
   D. Double Yellow **Ans: C**

7) Indications for Attention in Four Aspect Signaling Territory

A. Yellow

B. Green

C. Red

D. Double Yellow **Ans: D**

8) Caution Aspect means:

A. Stop At The Foot Of Signal.

B. Pass the Signal at Section Speed.

C. Be Prepared To Pass Next Stop Signal at Restricted Speed.

D. Be Prepared To Stop At Next Stop Signal. **Ans: D**

9) Attention Aspect means:

A. Stop At The Foot Of Signal.

B. Pass the Signal at Section Speed.

C. Be Prepared To Pass Next Stop Signal At Restricted Speed.

D. Be Prepared To Stop At Next Stop Signal. **Ans: B**

10) Proceed Aspect means:

A. Stop At The Foot Of Signal.

B. Pass the Signal at Section Speed.

C. Be Prepared To Pass Next Stop Signal at Restricted Speed.

D. Be Prepared To Stop At Next Stop Signal. **Ans: B**

11) Distant Signal Showing Yellow Aspect Means

A. Train is required to stop at the Home Signal

B. Reception on loop line

C. Reception on either Main or Loop line

D. Run through on Main line **Ans: A**

12) Distant Signal Showing Double Yellow Aspect Means

A. Train is required to stop at the Home Signal

B. Reception on loop line

C. Reception on either Main or Loop line

D. Run through on Main line **Ans: C**

13) Distant Signal Showing Green Aspect Means

A. Train is required to stop at the Home Signal

B. Reception on loop line

C. Reception on either Main or Loop line

D. Run through on Main line **Ans: D**

14) Distant Signal Showing Red Aspect Means

A. Train is required to stop at the Home Signal

B. Reception on loop line

C. Reception on either Main or Loop line

D. Red Aspect Not Available **Ans: D**

15) Inner Distant Signal Showing Yellow Aspect Means

A. Train is required to stop at the Home Signal

B. Reception on loop line

C. Reception on either Main or Loop line

D. Run through on Main line **Ans: C**

16) Inner Distant Signal Showing Double Yellow Aspect Means

A. Train is required to stop at the Home Signal

B. Reception on loop line

C. Reception on either Main or Loop line

D. Run through on Main line **Ans: C**

17) Inner Distant Signal Showing Green Aspect Means

A. Train is required to stop at the Home Signal

B. Reception on loop line

C. Reception on either Main or Loop line

D. Run through on Main line **Ans: D**

18) Inner Distant Signal Showing Red Aspect Means

A. Train is required to stop at the Home Signal

B. Reception on loop line

C. Reception on either Main or Loop line

D. Red Aspect Not Available **Ans: D**

19) IB Signal cum Distant Signal Showing Red Aspect Means

A. Block section ahead is not clear

B. Stop at the Home Signal

C. Block section ahead is clear, run through on Main line at station ahead

D. Stop at M/L or L/L starter or Pass through on Loop line **Ans: A**

20) IB Signal cum Distant Signal Showing Yellow Aspect Means

A. Block section ahead is not clear

B. Stop at the Home Signal

C. Block section ahead is clear, run through on Main line at station ahead

D. Stop at M/L or L/L starter or Pass through on Loop line **Ans: B**

21) IB Signal cum Distant Signal Showing Double Yellow Aspect Means

A. Block section ahead is not clear

B. Stop at the Home Signal

C. Block section ahead is clear, run through on Main line at station ahead

D. Stop at M/L or L/L starter or Pass through on Loop line **Ans: D**

22) IB Signal cum Distant Signal Showing Green Aspect Means

A. Block section ahead is not clear

B. Stop at the Home Signal

C. Block section ahead is clear, run through on Main line at station ahead

D. Stop at M/L or L/L starter or Pass through on Loop line **Ans: C**

23) Block Over Lap In Two Aspect Signaling Territory

A. 180 Mts

B. 120 Mts.

C. 400 Mts.

D. 300 Mts. **Ans: C**

24) Block Over Lap In Multi Aspect Signaling Territory

A. 120 Mts

B. 180 Mts.

C. 400 Mts.

D. 300 Mts. **Ans: B**

25) Signal Overlap In Two Aspect Signaling Territory

A. 180 Mts

B. 120 Mts.

C. 300 Mts.

D. 400 Mts. **Ans: A**

26) Signal Overlap In Multi Aspect Signaling Territory

A. 120 Mts

B. 180 Mts.

C. 400 Mts.

D. 300 Mts. **Ans: A**

27) In Two Aspect Signaling Territory If Section Speed is 100 KMPH & Above, Minimum Visibility of Outer Signal

A. 800 Mts

B. 400 Mts.

C. 200 Mts.

D. 1200 Mts. **Ans: D**

28) In Two Aspect Signaling Territory If Section Speed is Less Than 100 KMPH, Minimum Visibility of Outer Signal

A. 1200 Mts

B. 800 Mts.

C. 200 Mts.

D. 400 Mts. **Ans: B**

29) In Two Aspect Signaling Territory Where Warner is Separate, Minimum Visibility of Outer Signal

A. 1200 Mts

B. 200 Mts.

C. 400 Mts.

D. 800 Mts. **Ans: C**

30) In Two Aspect Signaling Territory Where Warner on a Post By It Self, Minimum Visibility Of Warner Signal

A. 200 Mts

B. 800 Mts.

C. 1200 Mts.

D. 400 Mts. **Ans: D**

31) In Two Aspect Signaling Territory Minimum Visibility of Home Signal

A. 1200 Mts

B. 200 Mts.

C. 400 Mts.

D. 800 Mts. **Ans: C**

32) In Two Aspect Signaling Territory Minimum Visibility of M / L Starter

A. 400 Mts

B. 1200 Mts.

C. 800 Mts.

D. 200 Mts. **Ans: A**

33) In Two Aspect Signaling Territory Minimum Visibility of Loop Line Starter Signal

A. 400 Mts

B. 1200 Mts.

C. 800 Mts.

D. 200 Mts. **Ans: D**

34) In Two Aspect Signaling Territory Minimum Visibility of Advance Starter Signal

A. 400 Mts

B. 1200 Mts.

C. 800 Mts.

D. 200 Mts. **Ans: D**

35) In Multi Aspect Signaling Territory Minimum Visibility of Distant Signal

A. 400 Mts

B. 800 Mts.

C. 600 Mts.

D. 200 Mts. **Ans: A**

36) In Multi Aspect Signaling Territory Minimum Visibility of Inner- Distant Signal

A. 500 Mts

B. 800 Mts.

C. 400 Mts.

D. 200 Mts. **Ans: D**

37) In Multi Aspect Signaling Territory Minimum Visibility of Home Signal

A. 600 Mts

B. 200 Mts.

C. 400 Mts.

D. 800 Mts. **Ans: B**

38) In Multi Aspect Signaling Territory Minimum Visibility of Loop Line Starter Signal

A. 200 Mts

B. 800 Mts.

C. 400 Mts.

D. 600 Mts. **Ans: A**

39) In Multi Aspect Signaling Territory Minimum Visibility of M/L Line Starter Signal

A. 600 Mts

B. 800 Mts.

C. 200 Mts.

D. 400 Mts. **Ans: C**

40) In Multi Aspect Signaling Territory Minimum Visibility Of Advance Starter Signal

A. 600 Mts

B. 800 Mts.

C. 400 Mts.

D. 200 Mts. **Ans: D**

41) Last Stop Signal cum I.B. Distant Showing Red Aspect Means

A. Line clear has not been obtained

B. Proceed cautiously , be prepared to stop at IBS

C. Block section Upto IBS is clear.

D. Proceed , and IBS at ‘OFF’ **Ans: A**

42) Last Stop Signal cum I.B. Distant Showing Yellow Aspect Means

A. Line clear has not been obtained

B. Proceed cautiously , be prepared to stop at IBS

C. Block section Upto IBS is clear.

D. Proceed , and IBS at ‘OFF’ **Ans: B**

43) Last Stop Signal cum I.B. Distant Showing Green Aspect Means

A. Line clear has not been obtained

B. Proceed cautiously, be prepared to stop at IBS

C. Block section Upto IBS is clear.

D. Proceed , and IBS at ‘OFF’ **Ans: D**

44) Gate Signal Cum Distant Signal Showing Red Aspect Means

A. LC gate opened to road traffic

B. Stop at the Home Signal

C. LC gate is closed and required to Stop at M/L or L/L starter or Pass through on Loop line

D. LC gate is closed, run through on Main line **Ans: A**

45) Gate Signal Cum Distant Signal Showing Yellow Aspect Means

A. LC gate opened to road traffic

B. Stop at the Home Signal

C. LC gate is closed and required to Stop at M/L or L/L starter or Pass through on Loop line

D. LC gate is closed, run through on Main line **Ans: B**

46) Gate Signal Cum Distant Signal Showing Double Yellow Aspect Means

A. LC gate opened to road traffic

B. Stop at the Home Signal

C. LC gate is closed and required to Stop at M/L or L/L starter or Pass through on Loop line

D. LC gate is closed, run through on Main line **Ans: C**

47) Gate Signal Cum Distant Signal Showing Green Aspect Means

A. LC gate opened to road traffic

B. Stop at the Home Signal

C. LC gate is closed and required to Stop at M/L or L/L starter or Pass through on Loop line

D. LC gate is closed, run through on Main line **Ans: D**

48) Last Stop Signal cum Gate Distant Showing Green Aspect Means

A. Line clear has not been obtained

B. Line clear has been obtained, but gate is opened to road traffic

C. Line clear has been obtained, and gate is closed to road traffic.

D. Line clear has not been obtained , and gate is closed to road traffic **Ans: C**

49) Last Stop Signal cum Gate Distant Showing Red Aspect Means

A. Line clear has not been obtained

B. Line clear has been obtained, but gate is opened to road traffic

C. Line clear has been obtained, and gate is closed to road traffic.

D. Line clear has not been obtained , and gate is closed to road traffic **Ans: A**

50) Last Stop Signal cum Gate Distant Showing Yellow Aspect Means

A. Line clear has not been obtained

B. Line clear has been obtained, but gate is opened to road traffic

C. Line clear has been obtained, and gate is closed to road traffic.

D. Line clear has not been obtained, and gate is closed to road traffic **Ans: B**

51) Minimum Distance From Home Signal to Distant Signal(in case of single D/S)

A. 1000 Mts.

B. 1400 Mts.

C. 2000 Mts.

D. 1800 Mts. **Ans: A**

52) Minimum Distance From Home Signal to Distant Signal (in case of double D/S)

A. 1000 Mts.

B. 1400 Mts.

C. 2000 Mts.

D. 1800 Mts. **Ans: C**

53) Minimum Distance From Home Signal to Inner Distant Signal

A. 2000 Mts.

B. 1400 Mts.

C. 1800 Mts.

D. 1000 Mts. **Ans: D**

54) Minimum Distance From Home Signal to Goods Warning Board

A. 1000 Mts.

B. 1400 Mts.

C. 2000 Mts.

D. 1800 Mts. **Ans: B**

55) Minimum Distance From Home Signal to BSLB

A. 300 Mts.

B. 580 Mts.

C. 120 Mts.

D. 180 Mts. **Ans: D**

56) Station is a Class `A' Stations, Where

A. Line Clear May Not Be Given For A Train, Unless The Line Is Clear For At Least 400 Mts Beyond The Home Signal

B. Permission To Approach May Not Be Given For A Train Unless The Whole of The Last Proceeding Train Has Passed Complete At Least 400 Mts. Beyond The Home Signal (IBS / IBH) And Is Continuing Its Journey

C. Line Clear May Be Given For A Train Before The Line Has Been Clear For The Reception Of The Train Within The Station Section

D. Line Clear May Not Be Given For A Train, Unless The Line Is Clear For At Least 800 Mts Beyond The Home Signal **Ans: A**

57) Station is a Class `B' Stations, Where

A. Line Clear May Not Be Given For A Train, Unless The Line Is Clear For At Least 400 Mts Beyond The Home Signal

B. Permission To Approach May Not Be Given For A Train Unless The Whole of The Last Proceeding Train Has Passed Complete At Least 400 Mts. Beyond The Home Signal (IBS / IBH) And Is Continuing Its Journey

C. Line Clear May Be Given For A Train Before The Line Has Been Clear For The Reception Of The Train Within The Station Section

D. Line Clear May Not Be Given For A Train, Unless The Line Is Clear For At Least 800 Mts Beyond The Home Signal **Ans: C**

58) Station is a Class `C' Stations, Where

A. Line Clear May Not Be Given For A Train, Unless The Line Is Clear For At Least 400 Mts Beyond The Home Signal

B. Permission To Approach May Not Be Given For A Train Unless The Whole Of The Last Proceeding Train Has Passed Complete At Least 400 Mts. Beyond The Home Signal (IBS / IBH) And Is Continuing Its Journey

C. Line Clear May Be Given For A Train Before The Line Has Been Clear For The Reception Of The Train Within The Station Section

D. Line Clear May Not Be Given For A Train, Unless The Line Is Clear For At Least 600 Mts Beyond The Home Signal **Ans: B**

59) These Stations Exist Only In Two Aspect Territories Where Train Is Not Allowed To Stop At First Stop Signal Due To Steep Gradient / Weak Bridges

A. Class `C' Stations

B. Class `B' Stations

C. Class `D' Stations

D. Class `A' Stations **Ans: D**

60) At These Stations Line Clear May Be Given For A Train Before The Reception Line Has Been Cleared Of Train Within The Station Section

A. Class `C' Stations

B. Class `B' Stations

C. Class `D' Stations

D. Class `A' Stations **Ans: B**

61) Intermediate Block Post, Block Huts Are Normally Classified As

A. Class `C' Stations

B. Class `B' Stations

C. Class `D' Stations

D. Class `A' Stations **Ans: A**

62) The Station Section Exists Only For

A. Class `C' Stations

B. Class `B' Stations

C. Class `D' Stations

D. Class `A' Stations **Ans: B**

63) In Two Aspect Territories On Double Line Section, Station Section is

A. Between Home Signal and the Loop line Starter Signal of the Station in Either Direction

B. Between Home Signal and the Last Stop Signal of the Station in either direction

C. Between Home Signal and the Main line Starter Signal of the Station in Either Direction

D. Between the Main line Starter Signal and the Last Stop Signal of the Station in Either Direction **Ans: B**

64) In Two Aspect Territories On Single Line Section, Station Section is

A. Between Home Signal and the Loop line Starter Signal in both Directions

B. Between Home Signal and the Advanced Starters in both Directions

C. Between the Shunting Limit Boards or Advanced Starters

D. Between the Main line Starter Signal and the Advanced Starters in both Directions

Ans: C

65) In Multiple Aspect Territories On Double Line Section Station Section is

A. Between Home Signal and the Loop line Starter Signal of the Station in Either Direction

B. Between Home Signal and the Last Stop Signal of the Station in either direction

C. Between Home Signal and the Main line Starter Signal of the Station in Either Direction

D. Between the outermost facing point and the last Stop Signal of the station in either direction **Ans: D**

66) In Multiple Aspect Territories On Single Line Section Station Section is

A. Between the Shunting Limit Boards or Advanced Starters

B. Between Home Signal and the Advanced Starters

C. Between Home Signal and the Main line Startersl

D. Between Home Signal and the Loop line Starters **Ans: A**

67) Isolation is not required between Passenger line and

A. Goods line

B. Siding

C. Passenger line if speed < 50 Kmph

D. Passenger line if speed ≥ 50 Kmph **Ans: C**

68) Isolation is not required between Goods line and

A. Goods line if speed < 50 Kmph

B. Passenger line if speed ≥ 50 Kmph

C. Goods line if speed ≥ 50 Kmph

D. Passenger line if speed < 50 Kmph **Ans: A**

69) Slip Siding to be provided To Protect Block section

A. If the Gradient is Steeper than 1/80 falling away from the station

B. If the Gradient is Steeper than 1/100 falling away from the station

C. If the Gradient is Steeper than 1/260 falling away from the station

D. If the Gradient is Steeper than 1/400 falling away from the station **Ans: B**

70) Catch Siding to be provided To Protect Station Section

A. If the Gradient is Steeper than 1/400 falling towards the station

B. If the Gradient is Steeper than 1/100 falling towards the station

C. If the Gradient is Steeper than 1/260 falling towards the station

D. If the Gradient is Steeper than 1/80 falling towards the station **Ans: D**

71) Catch Siding to be provided

A. To Protect Block section

B. To Protect Stabling Yard

C. To Protect Washing Yard

D. To Protect Station Section **Ans: D**

72) Slip Siding to be provided

A. To Protect Block section

B. To Protect Stabling Yard

C. To Protect Washing Yard

D. To Protect Station Section **Ans: A**

73) As Per New Revised Para 7.131 of SEM Part - I, Permissible Speed in KMPH Standard-I (Revised) Of Interlocking

A. Up to 50

B. Up to 110

C. Up to 140

D. Up to 160 **Ans: A**

74) As Per New Revised Para 7.131 of SEM Part - I, Permissible Speed in KMPH Standard-II (Revised) Of Interlocking

A. Up to 50

B. Up to 110

C. Up to 140

D. Up to 160 **Ans: B**

75) As Per New Revised Para 7.131 of SEM Part - I, Permissible Speed in KMPH Standard-III (Revised) Of Interlocking

A. Up to 50

B. Up to 110

C. Up to 140

D. Up to 160 **Ans: C**

76) As Per New Revised Para 7.131 of SEM Part - I, Permissible Speed in KMPH Standard-IV (Revised) Of Interlocking

A. Up to 50

B. Up to 110

C. Up to 140

D. Up to 160 **Ans: D**

77) As Per New Revised Para 7.131 of SEM Part - I, Point operation in Standard-IV (Revised) Of Interlocking

A. Electrical in Multi Aspect Signaling

B. Mechanical in Multi Aspect Signaling

C. Electrical/Mechanical in Multi Aspect Signaling

D. Mechanical in 2 Aspect Signaling **Ans: A**

78) As Per New Revised Para 7.131 of SEM Part - I, Lock Detection not Required in

A. Standard-II (Revised) Of Interlocking

B. Standard-IV (Revised) Of Interlocking

C. Standard-I (Revised) Of Interlocking

D. Standard-III (Revised) Of Interlocking **Ans: C**

79) As Per New Revised Para 7.131 of SEM Part - I, Track Circuiting not Required in

A. Standard-III (Revised) Of Interlocking

B. Standard-I (Revised) Of Interlocking

C. Standard-IV (Revised) Of Interlocking

D. Standard-II (Revised) Of Interlocking **Ans: B**

80) As Per New Revised Para 7.131 of SEM Part - I, Lock Detection not Required in

A. Standard-II (Revised) Of Interlocking

B. Standard-IV (Revised) Of Interlocking

C. Standard-I (Revised) Of Interlocking

D. Standard-III (Revised) Of Interlocking **Ans: C**

81) In Two Aspect Signaling, Minimum Equipment Of Signals In Class óAôStations

A. Outer, Home

B. Outer, Home and Starters

C. Warner, Home, Starters

D. Warner, Home **Ans: C**

82) In Two Aspect Signaling, Minimum Equipment Of Signals In Class óBôSingle line Stations

A. Outer, Home

B. Outer, Home and Starters

C. Warner, Home, Starters

D. Warner, Home **Ans: A**

83) In Two Aspect Signaling, Minimum Equipment Of Signals In Class óBôDouble line Stations

A. Outer, Home

B. Outer, Home and Starters

C. Warner, Home, Starters

D. Warner, Home **Ans: B**

84) In Two Aspect Signaling, Minimum Equipment Of Signals In Class óCôStations

A. Outer, Home

B. Outer, Home and Starters

C. Warner, Home, Starters

D. Warner, Home **Ans: D**

85) In Two Aspect Signaling, Minimum Equipment Of Signals In Class óDôStations

A. Outer, Home

B. No Signals

C. Warner, Home, Starters

D. Warner, Home **Ans: B**

86) In Multi Aspect Signaling, Minimum Equipment Of Signals In Class óBôStations

A. Distant, Home

B. No Signals

C. Distant, Starters

D. Distant, Home, Starters **Ans: D**

87) In Multi Aspect Signaling, Minimum Equipment Of Signals In Class óCôStations

A. Distant, Home

B. No Signals

C. Distant, Starters

D. Distant, Home, Starters **Ans: A**

88) L.C. Gates Census Shall Be Done Once In

A. 4 years

B. 3 years

C. 2 years

D. 5 years **Ans: B**

89) L.C. Gates Census Shall Be Done Once In

A. 4 years

B. 3 years

C. 2 years

D. 5 years **Ans: B**

90) L.C. Gates Census Shall Be Done by team consisting of Supervisors of

A. Engg,, Running, and S&T

B. Elect., Running, and Traffic Dept

C. Engg, S&T, and Traffic Dept

D. Engg, Running, and Traffic Dept **Ans: C**

91) For L.C. Gates TVU is

A. Train Visibility Unit

B. Train Vehicle Unit

C. Train Velocity Unit

D. Traffic Velocity Unit **Ans: B**

92) Visibility of manned gate

A. 8 Mts

B. 3 Mts

C. 15 Mts

D. 5 Mts **Ans: D**

93) Distance of Gate lodge at L.C. Gate from Centre of Track

A. 8 Mts

B. 3 Mts

C. 6 Mts

D. 5 Mts **Ans: C**

94) Distance of Speed Breakers at L.C. Gate from Centre of Track

A. 20 Mts

B. 30 Mts

C. 60 Mts

D. 15 Mts **Ans: A**

95) Distance of Gate Post at L.C. Gate from Centre of Track

A. 8 Mts

B. 5 Mts

C. 6 Mts

D. 15 Mts **Ans: B**

96) At L.C. Gate Fencing parallel to the track

A. 8 Mts

B. 5 Mts

C. 6 Mts

D. 15 Mts **Ans: D**

97) Distance of Height gauge at L.C. Gate from Centre of Track

A. 8 Mts

B. 5 Mts

C. 6 Mts

D. 15 Mts **Ans: A**

98) For Classification Of L.C. Gates Census Shall Be Done Once In 3 Years and

A. 7 days Average is taken for classification

B. 10 days Average is taken for classification

C. 15 days Average is taken for classification

D. 5 days Average is taken for classification **Ans: A**

99) Special class L.C. Gate has

A. TVUôs between 20,000--25,000

B. TVUôs between 30,000--50,000

C. TVUôs greater than 50,000

D. TVUôs between 25,000--30,000 **Ans: C**

100) óAôclass L.C. Gate has

A. TVUôs between 20,000--25,000

B. TVU‘s between 30,000--50,000

C. TVU‘s greater than 50,000

D. TVU‘s between 25,000--30,000 **Ans: B**

101) ‘B1‘ class L.C. Gate has

A. TVU‘s between 20,000--25,000

B. TVU‘s between 30,000--50,000

C. TVU‘s greater than 50,000

D. TVU‘s between 25,000--30,000 **Ans: D**

102) ‘B2‘ class L.C. Gate has

A. TVU‘s between 20,000--25,000

B. TVU‘s between 30,000--50,000

C. TVU‘s greater than 50,000

D. TVU‘s between 25,000--30,000 **Ans: A**

103) L.C. Gate with TVU‘s between 20,000--25,000 Classified as

A. ‘A‘ class L.C. Gate

B. ‘B1‘ class L.C. Gate

C. ‘B2‘ class L.C. Gate

D. Special class L.C. Gate **Ans: C**

104) L.C. Gate with TVU‘s between 25,000--30,000 Classified as

A. ‘A‘ class L.C. Gate

B. ‘B1‘ class L.C. Gate

C. ‘B2‘ class L.C. Gate

D. Special class L.C. Gate **Ans: B**

105) L.C. Gate with TVU‘s between 30,000--50,000 Classified as

A. ‘A‘ class L.C. Gate

B. ‘B1‘ class L.C. Gate

C. ‘B2‘ class L.C. Gate

D. Special class L.C. Gate **Ans: A**

106) L.C. Gate with TVU‘s Greater Than 50,000 Classified as

A. ‘A‘ class L.C. Gate

B. ‘B1‘ class L.C. Gate

C. ‘B2‘ class L.C. Gate

D. Special class L.C. Gate **Ans: D**

107) L.C. Gate with TVU‘s Less Than 20,000 Classified as

A. ‘A‘ class L.C. Gate

B. ‘B1‘ class L.C. Gate

C. ‘B2’class L.C. Gate

D. ‘C’class L.C. Gate **Ans: D**

108) L.C. Gate for Cattle Crossing is Classified as

A. ‘D’class L.C. Gate

B. Special class L.C. Gate

C. ‘B2’class L.C. Gate

D. ‘C’class L.C. Gate **Ans: A**

109) Periodicity of checking of LC gate accessories with wire rope and winch once in a

A. Month

B. Week

C. Fortnight

D. 3 Months **Ans: B**

110) Periodicity of checking winch and E-Type locks once in a

A. Month

B. Fortnight

C. Week

D. 3 Months **Ans: C**

111) Periodicity of checking Operating Drum locking and Boom locking once in a

A. Week

B. Fortnight

C. Month

D. 3 Months **Ans: A**

112) Winch & Wire Operated L.C. Gate’s Range Of Operation Is

A. 200 Mts

B. 250 Mts

C. 150 Mts

D. 300 Mts **Ans: C**

113) Lifting barrier boom height from road surface should be maintained between

A. 0.4 Mts. and 0.6 Mts

B. 1.2 Mts. And 1.5 Mts

C. 1.5 Mts. and 2 Mts

D. 0.8 Mts. and 1 Mts **Ans: D**

114) The open position of the lifting barrier shall be within

A. 60 to 65 degrees from the horizontal

B. 80 to 85 degrees from the horizontal

C. 70 to 75 degrees from the horizontal

D. 50 to 55 degrees from the horizontal **Ans: B**

115) The Closed Position Of The Lifting Barrier Shall Be Within

A. 0 to 10 degrees from the horizontal

B. 10 to 15 degrees

C. 15 to 20 degrees

D. 20 to 25 degrees **Ans: A**

116) With Effective Boom Locking, It Should Not Be Possible To Lift The Boom By More Than

A. 20 degrees from closed position

B. 25 degrees from closed position

C. 15 degrees from closed position

D. 10 degrees from closed position **Ans: D**

117) TVUs measurement ½ unit is assigned to

A. Bullock Carts

B. Motor vehicle

C. Cycle rickshaw

D. Tanga **Ans: C**

118) Periodicity of checking wire ropes inside the pipes should be pulled out once in a

A. 3 Months

B. Fortnight

C. Month

D. Week **Ans: D**

119) In TVUs measurement Motor Vehicle is assigned

A. ½ unit

B. 1 unit

C. ¾ unit

D. 1½ unit **Ans: B**

120) In TVUs measurement Train is assigned

A. 1 unit

B. 1½ unit

C. ¾ unit

D. ½ unit **Ans: A**

121) In TVUs measurement Bullock Carts is assigned

A. ½ unit

B. 1½ unit

C. ¾ unit

D. 1 unit **Ans: D**

122) In TVUs measurement Tanga is assigned

A. ½ unit

B. 1½ unit

C. 1 unit

D. ¾ unit **Ans: C**

123) In TVUs measurement Auto Rickshaw is assigned

A. ½ unit

B. 1½ unit

C. 1 unit

D. ¾ unit **Ans: A**

124) Unmanned gate is to be converted into manned gate When TVU

A. TVU greater than 1,000

B. TVU greater than 2,000

C. TVU greater than 3,000

D. TVU greater than 4,000 **Ans: C**

Chapter 2: Signalling General

125) Periodicity of foot plate inspection For JE/SSE Section:

A. Once in a month

B. Once in a Year

C. Once in 6 month

D. Once in 9 month **Ans: A**

126) Periodicity of foot plate inspection For In-Charge SSE:

A. Once in a month

B. Once in a Year

C. Once in 6 month

D. Once in 3 month **Ans: D**

127) Periodicity of foot plate inspection ASTE/DSTE:

A. Once in a month

B. Once in a Year

C. Once in 6 month

D. Once in 3 month **Ans: B**

128) Periodicity of foot plate inspection Maintainer:

A. Once in a month

B. Once in a Fortnight

C. Not Applicable

D. Once in 3 month **Ans: B**

129) Allowed gauge tolerances(tightness) on straight line including curves of 350 Mts and more radius:

A. 1676 -2 mm

B. 1676 -3 mm

C. 1676 -6 mm

D. 1676 -5 mm **Ans: D**

130) Allowed gauge tolerances(slackness) on straight line including curves of 350 Mts and more radius:

A. 1676 +2 mm

B. 1676 +3 mm

C. 1676 +6 mm

D. 1676 +5 mm **Ans: B**

131) Allowed gauge tolerances on curves less than 350 m radius:

A. 1676 +8 mm

B. 1676 +4 mm

C. 1676 +10 mm

D. 1676 +6 mm **Ans: C**

132) Maximum permissible speed on óAôroute:

A. 100 to 130 kmph

B. 130 to 160 kmph

C. 75 to 100 kmph

D. 50 to 75 kmph **Ans: B**

133) Maximum permissible speed on óBôroute:

A. 100 to 130 kmph
B. 130 to 160 kmph
C. 75 to 100 kmph
D. 50 to 75 kmph **Ans: A**

134) Maximum permitted gradient in station yard:

A. 1 in 260
B. 1 in 100
C. 1 in 80
D. 1 in 400 **Ans: D**

135) Recommended gradient in station yard:

A. 1 in 260
B. 1 in 1200
C. 1 in 100
D. 1 in 400 **Ans: B**

136) Maximum super elevation permitted in BG:

A. 100 mm
B. 120 mm
C. 165 mm
D. 150 mm **Ans: C**

137) Maximum super elevation permitted in MG:

A. 100 mm
B. 120 mm
C. 165 mm
D. 150 mm **Ans: A**

138) SWR must be read in conjunction with:

A. G&SR, SEM
B. G&SR, BWM
C. SEM, BWM
D. G&SR, TM **Ans: B**

139) SWR Revision Should be Done:

A. 1 Year and after 3 corrections.
B. 4 Years and after 1 corrections
C. 3 Years and after 2 corrections.
D. 2 Years and after 1 corrections. **Ans: A**

140) SWR Revision Should be Done:

A. 1 Years and after 1 corrections.

B. 2 Years and after 3 corrections.

C. 4 Years and after 2 corrections.

D. 3 Years and after 1 corrections. **Ans: B**

141) SWR Revision Should be Done:

A. 1 Year and after 1 corrections.

B. 2 Years and after 2 corrections.

C. 3 Years and after 3 corrections.

D. 4 Years and after 1 corrections. **Ans: C**

142) SWR Revision Should be Done:

A. 1 Year and after 1 corrections.

B. 2 Years and after 2 corrections.

C. 3 Years and after 2 corrections.

D. 4 Years and after 3 corrections. **Ans: D**

143) SWR Revision Should be Done:

A. 1 Year and after 1 corrections.

B. 2 Years and after 2 corrections.

C. 4 Years and after 2 corrections.

D. 5 Years and after 3 corrections. **Ans: D**

144) SWR Revision Should be Done:

A. 6 Months and after 3 corrections.

B. 2 Years and after 2 corrections.

C. 4 Years and after 2 corrections.

D. 3 Years and after 1 corrections. **Ans: A**

145) Signaling Interlocking Plan (SIP) prepared on the basis of:

A. Route plan.

B. Engineering plan.

C. Cable Route plan.

D. Traction Sub Station Plan **Ans: B**

146) The clearance between bottom of the rail and top of leading stretcher bar under the S/rail:

A. 4 to 6 mm.

B. 0.5 to 1 mm.

C. 1.5 to 3 mm.

D. 5 to 7 mm. **Ans: C**

147) Minimum clearance between bottom of the rail and top of leading stretcher bar under the S/rail:

A. 4 mm.

B. 1.5 mm.

C. 3 mm.

D. 2 mm. **Ans: B**

148) Maximum clearance between bottom of the rail and top of leading stretcher bar under the S/rail:

A. 4 mm.

B. 1.5 mm.

C. 3 mm.

D. 2 mm. **Ans: C**

149) Allowed Clearance between bottom of the rail and top of leading stretcher bar under the S/rail:

A. 4 mm.

B. 2 mm.

C. 3.5 mm.

D. 0.5 mm. **Ans: B**

150) Allowed Clearance between bottom of the rail and top of leading stretcher bar under the S/rail:

A. 2.5 mm.

B. 1 mm.

C. 5.5 mm.

D. 0.5 mm. **Ans: A**

151) Allowed Clearance between bottom of the rail and top of leading stretcher bar under the S/rail:

A. 4.5 mm.

B. 1 mm.

C. 5.5 mm.

D. 1.75 mm. **Ans: D**

152) Existing Minimum distance between centre to centre of track in BG:

A. 3265 mm.

B. 4265 mm.

C. 5265 mm.

D. 2265 mm. **Ans: B**

153) For new works Minimum distance between centre to centre of track in BG:

A. 4300 mm.

B. 4265 mm.

C. 5300 mm.

D. 2300 mm **Ans: C**

154) Minimum clearance of check rail at level crossing:

A. 51 mm.

B. 31 mm.

C. 61 mm.

D. 71 mm. **Ans: A**

155) Maximum clearance of check rail at level crossing:

A. 51 mm.

B. 58 mm.

C. 61 mm.

D. 71 mm. **Ans: B**

156) Clearance of check rail at level crossing Should be in Between :

A. 41 to 48 mm.

B. 31 to 38 mm.

C. 51 to 58 mm.

D. 61 to 68 mm. **Ans: C**

157) Minimum clearance of check rail at Curves:

A. 54 mm.

B. 44mm.

C. 64 mm.

D. 34 mm. **Ans: B**

158) Minimum depth of space for wheel flange from rail level:

A. 58 mm.

B. 48mm.

C. 28 mm.

D. 38 mm. **Ans: D**

159) Currency of green notice (for N I):

A. 1 months.

B. 2 months.

C. 3 months.

D. 4 months. **Ans: C**

160) Existing Clear Standing Length (CSL/ CSR)

A. 486 Mts.

B. 686 Mts.

C. 586 Mts.

D. 786 Mts. **Ans: B**

161) Clear Standing Length (CSL/ CSR) For New layout

A. 486 Mts.

B. 686 Mts.

C. 586 Mts.

D. 715 Mts. **Ans: D**

162) CCRS head quarters is at:

A. Kolkata.

B. New Delhi

C. Lucknow.

D. Mumbai **Ans: C**

163) Currency of CRS sanction

A. 18 months.

B. 24 months.

C. 36 months.

D. 12 months. **Ans: D**

164) Currency of CRS sanction

A. 3 years.

B. 4 years.

C. 2 years.

D. 1 years. **Ans: D**

165) Validity of competency certificate issued by zonal training school

A. 48 months.

B. 24 months.

C. 36 months.

D. 12 months. **Ans: A**

166) Validity of competency certificate issued by zonal training school

A. 1 years.

B. 4 years.

C. 2 years.

D. 5 years. **Ans: B**

167) Period of over hauling for inter locking frames Once in

A. 1 years.

B. 4 years.

C. 2 years.

D. 3 years. **Ans: D**

168) Period of over hauling for inter locking frames Once in

A. 48 months.

B. 24 months.

C. 36 months.

D. 12 months. **Ans: C**

169) Resumption of normal working of lever frame with more than 20 working levers

A. CSE.

B. ASTE/DSTE.

C. SSE.

D. CSTE **Ans: B**

170) Maximum permitted earth resistance less than

A. 20 ohms.

B. 15 ohms.

C. 18 ohms

D. 10 ohms. **Ans: D**

171) Token census to be carried out Once in

A. 8 months.

B. 6 months.

C. 15 months.

D. 12 months. **Ans: B**

172) Period of over hauling for SGE block instrument Once in

A. 10 years.

B. 3 years.

C. 7 years.

D. 5 years. **Ans: C**

173) Period of over hauling for S/L token block instrument Once in

A. 10 years.

B. 3 years.

C. 7 years.

D. 5 years. **Ans: A**

174) Signal sighting committee

A. PWI, L.I., T.I.

B. SSE(S&T), PWI, T.I.

C. SSE(S&T), L.I., PWI

D. SSE(S&T), L.I., T.I. **Ans: D**

175) Opening of tongue rail in B.G

A. 118 ï 125 mm

B. 113 ï 115 mm

C. 85 ï 100 mm

D. 125 ï 130 mm **Ans: B**

176) Existing Minimum clearance between toe of open switch and stock rail

A. 110 mm

B. 95 mm

C. 85 mm

D. 125 mm **Ans: B**

177) Signalling plan is approved by

A. SSE.

B. CSTE/CSE.

C. ASTE/DSTE.

D. Dy. CSTE **Ans: B**

178) Period of Over hauling of lock bar clips Once in

A. 2 years.

B. 4 years.

C. 1 years.

D. 5 years. **Ans: C**

179) Approach locking, back locking, indication locking should be tested Once in

A. 2 years.

B. 3 years.

C. 1 years.

D. 4 years. **Ans: B**

180) New Minimum clearance between toe of open switch and stock rail

A. 115 mm

B. 95 mm

C. 85 mm

D. 125 mm **Ans: A**

181) Point testing to be carried out by JE/SSE Once in

A. 4 months..

B. 2 months.

C. 3 months.

D. 1 months. **Ans: D**

182) Point testing to be carried out by In-Charge SSE Once in

A. 4 months..

B. 2 months.

C. 3 months.

D. 1 months **Ans: C**

183) Point testing to be carried out by ASTE Once in

A. 18 months.

B. 12 months.

C. 15 months.

D. 9 months **Ans: B**

184) Signal posts, lever frames to be painted Once in

A. 2 years.

B. 5 years.

C. 3 years.

D. 4 years. **Ans: C**

185) Overhauling once in 7 Years to be done

A. SGE block instrument.

B. S/L token block instrument.

C. Shelf Type Relays.

D. FM Token less block instrument. **Ans: A**

186) Overhauling once in 10 Years to be done

A. SGE block instrument.

B. S/L token block instrument

C. Shelf Type Relays.

D. FM Token less block instrument. **Ans: B**

187) Overhauling once in 10 Years to be done

A. SGE Block Instrument.

B. S/L Token Block Instrument.

C. Shelf Type Relays..

D. Push Button Type Block Instrument. **Ans: B**

188) Signal post on Passenger platform should be provided from C/L of nearest track at a Minimum

A. 3720 mm

B. 2720 mm

C. 4720 mm

D. 5720 mm **Ans: C**

189) Signal post on Goods platform should be provided from C/L of nearest track at a Minimum

A. 2110 mm

B. 5110 mm

C. 3110 mm

D. 4110 mm **Ans: D**

190) In Over Dimensional Consignment (ODC) Working GROSS clearance means

A. Physical clearance at Rest

B. Physical clearance on RUN

C. Physical clearance at Block Section

D. Physical clearance at Loco Shed **Ans: A**

191) In Over Dimensional Consignment (ODC) Working NET clearance means

A. Physical clearance at Rest

B. Physical clearance on RUN

C. Physical clearance at Block Section

D. Physical clearance at Loco Shed **Ans: B**

192) Maximum number of persons allowed to travel on a Push trolley

A. 15

B. 20

C. 10

D. 25 **Ans: C**

193) Maximum number of persons allowed to travel on a Motor trolley with 4 HP motor

A. 15

B. 20

C. 10

D. 7 **Ans: D**

194) Maximum number of persons allowed to travel on a Motor trolley with 6 HP motor

A. 10

B. 15

C. 25

D. 20 **Ans: A**

195) Maximum 7 persons are allowed to travel on a

A. Push trolley

B. Motor trolley with 4 HP motor

C. Motor trolley with 6 HP motor

D. Motor trolley with 2 HP motor **Ans: B**

196) Minimum number of persons to travel on a motor trolley

A. 1

B. 3

C. 4

D. 2 **Ans: C**

197) Trolley / Motor trolley competency certificate is valid for

A. Four years

B. Three years

C. Two years

D. One year **Ans: D**

198) Protection of lorry in single line when stopped in mid section for unloading

A. By placing one banner flag at 600 Mts. on both sides and three detonators at 1200 Mts. from the place of obstruction

B. By placing one banner flag at 400 Mts. on both sides and three detonators at 800 Mts. from the place of obstruction

C. By placing one banner flag at 300 Mts. on both sides and three detonators at 700 Mts. from the place of obstruction

D. By placing one banner flag at 200 Mts. on both sides and three detonators at 600 Mts. from the place of obstruction **Ans: A**

199) Revised Codal life of Electrical/ Mechanical Signaling System assets on óAôroutes

A. 15 Years

B. 25 Years

C. 35 Years

D. 45 Years **Ans: B**

200) Revised Codal life of Electrical/ Mechanical Signaling System assets on óBô routes depending Upon location & condition

A. 45 to 48 Years

B. 35 to 38 Years

C. 25 to 28 Years

D. 15 to 18 Years **Ans: C**

201) Revised Codal life of Electrical/ Mechanical Signaling System assets on óDô routes depending Upon location & condition

A. 55 to 58 Years

B. 45 to 48 Years

C. 35 to 38 Years

D. 25 to 28 Years **Ans: D**

202) Revised Codal life of Electrical/ Mechanical Signaling System assets on óD-Specialô routes depending Upon location & condition

A. 25 to 28 Years

B. 35 to 38 Years

C. 25 to 28 Years

D. 45 to 48 Years **Ans: A**

203) Revised Codal life of Electrical/ Mechanical Signaling System assets on óEôroutes

A. 20 Years

B. 30 Years

C. 40 Years

D. 50 Years **Ans: B**

204) Revised Codal life of Electrical/ Mechanical Signaling System assets on óE-Specialô routes

A. 50 Years

B. 40 Years

C. 30 Years

D. 20 Years **Ans: C**

205) Revised Codal life of assets, Electronic signaling system like SSI, Axle counter, AWS, AFTC, IPS etc

A. 45 years or based on Obsolescence

B. 35 years or based on Obsolescence

C. 25 years or based on Obsolescence

D. 15 years or based on Obsolescence **Ans: D**

206) Revised Codal life of TELECOMMUNICATION assets, Microwave Equipments

A. 12-15 Years

B. 18-20 Years

C. 22-25 Years

D. 28-30 Years **Ans: A**

207) Revised Codal life of TELECOMMUNICATION assets, Exchange & accessories including Telephone equipment

A. 18-20 Years

B. 12-15 Years

C. 22-25 Years

D. 28-30 Years **Ans: B**

208) Revised Codal life of TELECOMMUNICATION assets, Under Ground Cables -Quad

A. 10 Years

B. 5 Years

C. 20 Years

D. 30 Years **Ans: C**

209) Revised Codal life of TELECOMMUNICATION assets, Under Ground Cables - OFC

A. 10 Years

B. 5 Years

C. 30 Years

D. 20 Years **Ans: D**

210) Revised Codal life of TELECOMMUNICATION assets, Overhead alignment

A. 25 Years

B. 15 Years

C. 30 Years

D. 20 Years **Ans: A**

211) Revised Codal life of TELECOMMUNICATION assets, All other electronic /wireless items including OFC equipment

A. 18-20 Years

B. 12-15 Years

C. 22-25 Years

D. 28-30 Years **Ans: B**

212) Revised Codal life of TELECOMMUNICATION assets, Cell Phones

A. 18-20 Years

B. 12-15 Years

C. 5-8 Years

D. 2-3 Years **Ans: C**

213) Revised Codal life of TELECOMMUNICATION assets, FAX

A. 25 Years

B. 35 Years

C. 30 Years

D. 10 Years **Ans: D**

214) Revised Codal life of TELECOMMUNICATION assets, Walkie ï Talkie Sets/VHF

A. 5-8 Years

B. 12-15 Years

C. 15-18 Years

D. 25-28 Years **Ans: A**

215) Revised Codal life of TELECOMMUNICATION assets, Data comm. Equipment, Routers, Modems, PCs etc

A. 10-12 Years

B. 5-8 Years

C. 15-18 Years

D. 25-28 Years **Ans: B**

216) Revised Codal Life Of Signaling Equipments- Cranks and compensators On óAôRoutes

A. 1 Years

B. 3 Years

C. 2 Years

D. 4 Years **Ans: C**

217) Revised Codal Life Of Signaling Equipments- Cranks and compensators On óBôRoutes

A. 1 Years

B. 3 Years

C. 4 Years

D. 2 Years **Ans: D**

218) Revised Codal Life Of Signaling Equipments- Cranks and compensators On óC/Subô Routes

A. 1 Years

B. 3 Years

C. 2 Years

D. 4 Years **Ans: A**

219) Revised Codal Life Of Signaling Equipments- Cranks and compensators On óD & D-Splô Routes

A. 1 Years

B. 4 Years

C. 2 Years

D. 3 Years **Ans: B**

220) Revised Codal Life Of Signaling Equipments- Cranks and compensators On óE & E-Splô Routes

A. 1 Years

B. 2 Years

C. 4 Years

D. 3 Years **Ans: C**

221) Revised Codal Life Of Signaling Equipments- Cranks and compensators in Terms Of Number Of Operations

A. 10,000

B. 20,000

C. 30,000

D. 50,000 **Ans: D**

222) Revised Codal Life Of Signaling Equipments- Lock Bars Clips in Terms Of Number Of Operations

A. 1,00,000

B. 2,00,000

C. 3,00,000

D. 4,00,000 **Ans: A**

223) Revised Codal Life Of Signaling Equipments- Lock Bars On óAôRoutes

A. 1 Years

B. 3 Years

C. 5 Years

D. 7 Years **Ans: B**

224) Revised Codal Life Of Signaling Equipments- Lock Bars On óBôRoutes

A. 1 Years

B. 5 Years

C. 3 Years

D. 7 Years **Ans: C**

225) Revised Codal Life Of Signaling Equipments- Lock Bars On óC/SubôRoutes

A. 1 Years

B. 7 Years

C. 5 Years

D. 3 Years **Ans: D**

226) Revised Codal Life Of Signaling Equipments- Lock Bars On óD & D-SplôRoutes

A. 5 Years

B. 7 Years

C. 1 Years

D. 3 Years **Ans: A**

227) Revised Codal Life Of Signaling Equipments- Lock Bars On óE & E-SplôRoutes

A. 1 Years

B. 7 Years

C. 5 Years

D. 3 Years **Ans: B**

228) Revised Codal Life Of Signaling Equipments- FPL with bolt detection in Terms Of Number Of Operations

A. 1,00,000

B. 2,00,000

C. 3,00,000

D. 4,00,000 **Ans: C**

229) Revised Codal Life Of Signaling Equipments- FPL with bolt detection On óAôRoutes

A. 15 Years

B. 10 Years

C. 6 Years

D. 8 Years **Ans: D**

230) Revised Codal Life Of Signaling Equipments- FPL with bolt detection On óBôRoutes

A. 8 Years

B. 10 Years

C. 6 Years

D. 15 Years **Ans: A**

231) Revised Codal Life Of Signaling Equipments- FPL with bolt detection On óC/SubôRoutes

A. 15 Years

B. 8 Years

C. 6 Years

D. 10 Years **Ans: B**

232) Revised Codal Life Of Signaling Equipments- Lock Bars On óD & D-SplôRoutes

A. 10 Years

B. 7 Years

C. 15 Years

D. 8 Years **Ans: C**

233) Revised Codal Life Of Signaling Equipments- FPL with bolt detection On óE & E-Splô Routes

A. 8 Years

B. 10 Years

C. 12 Years

D. 15 Years **Ans: D**

234) Revised Codal Life Of Signaling Equipments- Mechanical Detector On óBôRoutes

A. 15 Years

B. 20 Years

C. 25 Years

D. 10 Years **Ans: A**

235) Revised Codal Life Of Signaling Equipments- Mechanical Detector On óD & D-SplôRoutes

A. 15 Years

B. 20 Years

C. 25 Years

D. 10 Years **Ans: B**

236) Revised Codal Life Of Signaling Equipments- Mechanical Detector On ‘E & E-Spl’ Routes

A. 15 Years

B. 20 Years

C. 25 Years

D. 10 Years **Ans: C**

237) Revised Codal Life Of Signaling Equipments- Mechanical Detector in Terms Of Number Of Operations

A. 7,00,000

B. 9,00,000

C. 3,00,000

D. 5,00,000 **Ans: D**

238) Revised Codal Life Of Signaling Equipments- Circuit breakers in Terms Of Number Of Operations

A. 5,00,000

B. 9,00,000

C. 3,00,000

D. 7,00,000 **Ans: A**

239) Revised Codal Life Of Signaling Equipments- Circuit breakers On ‘A’ Routes

A. 20 Years

B. 15 Years

C. 25 Years

D. 10 Years **Ans: B**

240) Revised Codal Life Of Signaling Equipments- Circuit breakers On ‘B’ Routes

A. 20 Years

B. 25 Years

C. 15 Years

D. 10 Years **Ans: C**

241) Revised Codal Life Of Signaling Equipments- Circuit breakers On ‘C/Sub’ Routes

A. 20 Years

B. 35 Years

C. 25 Years

D. 15 Years **Ans: D**

242) Revised Codal Life Of Signaling Equipments- Circuit breakers On ‘D & D-Spl’ Routes

A. 25 Years

B. 15 Years

C. 20 Years

D. 30 Years **Ans: A**

243) Revised Codal Life Of Signaling Equipments- Circuit breakers On óE & E-SplôRoutes

A. 25 Years

B. 30 Years

C. 20 Years

D. 15 Years **Ans: B**

244) Revised Codal Life Of Signaling Equipments- Lever locks On óAôRoutes

A. 12 Years

B. 15 Years

C. 7 Years

D. 9 Years **Ans: C**

245) Revised Codal Life Of Signaling Equipments- Lever locks On óBôRoutes

A. 12 Years

B. 15 Years

C. 9 Years

D. 7 Years **Ans: D**

246) Revised Codal Life Of Signaling Equipments- Lever locks On óC/SubôRoutes

A. 7 Years

B. 15 Years

C. 12 Years

D. 9 Years **Ans: A**

247) Revised Codal Life Of Signaling Equipments- Lever locks On óD & D-SplôRoutes

A. 15 Years

B. 12 Years

C. 7 Years

D. 9 Years **Ans: B**

248) Revised Codal Life Of Signaling Equipments- Lever locks On óE & E-SplôRoutes

A. 12 Years

B. 7 Years

C. 15 Years

D. 9 Years **Ans: C**

249) Revised Codal Life Of Signaling Equipments- EKT On óAôRoutes

A. 12 Years

B. 15 Years

C. 20 Years

D. 10 Years **Ans: D**

250) Revised Codal Life Of Signaling Equipments- EKT On ôBôRoutes

A. 10 Years

B. 15 Years

C. 20 Years

D. 12 Years **Ans: A**

251) Revised Codal Life Of Signaling Equipments- EKT On ôC/SubôRoutes

A. 12 Years

B. 10 Years

C. 20 Years

D. 15 Years **Ans: B**

252) Revised Codal Life Of Signaling Equipments- EKT On ôD & D-SplôRoutes

A. 10 Years

B. 12 Years

C. 15 Years

D. 20 Years **Ans: C**

253) Revised Codal Life Of Signaling Equipments- EKT On ôE & E-SplôRoutes

A. 20 Years

B. 12 Years

C. 25 Years

D. 15 Years **Ans: D**

254) Revised Codal Life Of Signaling Equipments- SMôs Slide frame

A. 30 Years

B. 20 Years

C. 25 Years

D. 35 Years **Ans: A**

255) Revised Codal Life Of Signaling Equipments- EPD & Reversers On ôAôRoutes

A. 30 Years

B. 15 Years

C. 25 Years

D. 35 Years **Ans: B**

256) Revised Codal Life Of Signaling Equipments- EPD & Reversers On ôBôRoutes

A. 30 Years

B. 25 Years

C. 15 Years

D. 35 Years **Ans: C**

257) Revised Codal Life Of Signaling Equipments- EPD & Reversers On óC/SubôRoutes

A. 30 Years

B. 35 Years

C. 25 Years

D. 15 Years **Ans: D**

258) Revised Codal Life Of Signaling Equipments- EPD & Reversers On óD & D-SplôRoutes

A. 20 Years

B. 15 Years

C. 25 Years

D. 35 Years **Ans: A**

259) Revised Codal Life Of Signaling Equipments- EPD & Reversers On óE & E-SplôRoutes

A. 30 Years

B. 20 Years

C. 25 Years

D. 35 Years **Ans: B**

260) Revised Codal Life Of Signaling Equipments- Signal Machines On óE & E-SplôRoutes

A. 30 Years

B. 25 Years

C. 20 Years

D. 35 Years **Ans: C**

261) Revised Codal Life Of Signaling Equipments- Signal Machines On óD & D-SplôRoutes

A. 30 Years

B. 25 Years

C. 35 Years

D. 20 Years **Ans: D**

262) Revised Codal Life Of Signaling Equipments- Signal Machines On óBôRoutes

A. 10 Years

B. 25 Years

C. 20 Years

D. 35 Years **Ans: A**

263) Revised Codal Life Of Signaling Equipments- Signal Machines in Terms Of Number Of Operations

A. 1,00,000

B. 1,50,000

C. 2,00,000

D. 2,50,000 **Ans: B**

264) Revised Codal Life Of Signaling Equipments- Point Machine in Terms Of Number Of Operations

A. 5,00,000

B. 9,00,000

C. 3,00,000

D. 7,00,000 **Ans: C**

265) Revised Codal Life Of Signaling Equipments- Point Machine On óAôRoutes

A. 7 Years

B. 10 Years

C. 15 Years

D. 12 Years **Ans: D**

266) Revised Codal Life Of Signaling Equipments- Point Machine On óBôRoutes

A. 12 Years

B. 10 Years

C. 15 Years

D. 7 Years **Ans: A**

267) Revised Codal Life Of Signaling Equipments- Point Machine On óC/SubôRoutes

A. 10 Years

B. 7 Years

C. 15 Years

D. 12 Years **Ans: B**

268) Revised Codal Life Of Signaling Equipments- Point Machine On óD & D-SplôRoutes

A. 10 Years

B. 7 Years

C. 15 Years

D. 12 Years **Ans: C**

269) Revised Codal Life Of Signaling Equipments- Point Machine On óE & E-SplôRoutes

A. 10 Years

B. 7 Years

C. 12 Years

D. 15 Years **Ans: D**

270) Revised Codal Life Of Signaling Equipments- Signal wire Transmission On all Routes

A. 3 Years

B. 7 Years

C. 5 Years

D. 2 Years **Ans: A**

271) Revised Codal Life Of Signaling Equipments- Plug In And Shelf Type Relays On óAô Routes

A. 30 Years

B. 25 Years

C. 28 Years

D. 20 Years **Ans: B**

272) Revised Codal Life Of Signaling Equipments- Plug In And Shelf Type Relays On óBô Routes

A. 30 Years

B. 25 Years

C. 28 Years

D. 20 Years **Ans: C**

273) Revised Codal Life Of Signaling Equipments- Plug In And Shelf Type Relays On óC/Subô Routes

A. 20 Years

B. 30 Years

C. 28 Years

D. 25 Years **Ans: D**

274) Revised Codal Life Of Signaling Equipments- Plug In And Shelf Type Relays On óD & D-SplôRoutes

A. 28 Years

B. 25 Years

C. 30 Years

D. 20 Years **Ans: A**

275) Revised Codal Life Of Signaling Equipments- Plug In And Shelf Type Relays On óE & E-SplôRoutes

A. 25 Years

B. 30 Years

C. 28 Years

D. 20 Years **Ans: B**

276) Revised Codal Life Of Signaling Equipments- Plug In And Shelf Type Relays in Terms Of Number Of Operations

A. 5,00,000

B. 9,00,000

C. 10,00,000

D. 7,00,000 **Ans: C**

277) Revised Codal Life Of Signaling Equipments- Track Feed Battery Charger On all Routes

A. 4 Years

B. 6 Years

C. 8 Years

D. 10 Years **Ans: D**

278) Revised Codal Life Of Signaling Equipments- Battery Charger On all Routes

A. 10 Years

B. 6 Years

C. 8 Years

D. 4 Years **Ans: A**

279) Revised Codal Life Of Signaling Equipments- DG Sets On all Routes

A. 4 Years

B. 10 Years

C. 8 Years

D. 6 Years **Ans: B**

280) Revised Codal Life Of Signaling Equipments- Inverters On all Routes

A. 4 Years

B. 6 Years

C. 10 Years

D. 8 Years **Ans: C**

281) Revised Codal Life Of Signaling Equipments- Signal Transformers On all Routes

A. 10 Years

B. 6 Years

C. 8 Years

D. 12 Years **Ans: D**

282) Revised Codal Life Of Signaling Equipments- Transformers On all Routes

A. 12 Years

B. 6 Years

C. 8 Years

D. 10 Years **Ans: A**

283) Revised Codal Life Of Signaling Equipments- Batteries On all Routes

A. 6 Years

B. 4 Years

C. 8 Years

D. 10 Years **Ans: B**

284) Revised Codal Life Of Signaling Equipments- Block Instruments On all Routes

A. 30 Years

B. 28 Years

C. 25 Years

D. 20 Years **Ans: C**

285) Revised Codal Life Of Signaling Equipments- Block Instruments Electromechanical On all Routes

A. 30 Years

B. 28 Years

C. 25 Years

D. 20 Years **Ans: D**

286) Revised Codal Life Of Signaling Equipments- Cable On all Routes

A. 20 Years

B. 28 Years

C. 25 Years

D. 30 Years **Ans: A**

287) Revised Codal Life Of Civil Engineering Assets- Rails On óA&BôRoutes

A. 28 Years

B. 20 Years

C. 25 Years

D. 30 Years **Ans: B**

288) Revised Codal Life Of Civil Engineering Assets- Rails On óC/SubôRoutes

A. 28 Years

B. 20 Years

C. 15 Years

D. 30 Years **Ans: C**

289) Revised Codal Life Of Civil Engineering Assets- Rails On óDôRoutes

A. 28 Years

B. 20 Years

C. 25 Years

D. 30 Years **Ans: D**

290) Revised Codal Life Of Civil Engineering Assets- Rails On óEôRoutes

A. 30 Years

B. 20 Years

C. 25 Years

D. 28 Years **Ans: A**

291) Revised Codal Life Of Civil Engineering Assets- Wooden sleepers On All Routes

A. 30 Years

B. 10 Years

C. 20 Years

D. 25 Years **Ans: B**

292) Revised Codal Life Of Civil Engineering Assets- Metal sleepers(Cast iron& steel) On All Routes

A. 30 Years

B. 10 Years

C. 20 Years

D. 25 Years **Ans: C**

293) Revised Codal Life Of Civil Engineering Assets- Fittings Steel Trough On All Routes

A. 30 Years

B. 20 Years

C. 25 Years

D. 10 Years **Ans: D**

294) Revised Codal Life Of Civil Engineering Assets- Concrete Sleepers On óA&BôRoutes

A. 35 Years

B. 20 Years

C. 30 Years

D. 40 Years **Ans: A**

295) Revised Codal Life Of Civil Engineering Assets- Concrete Sleepers On óC/SubôRoutes

A. 20 Years

B. 35 Years

C. 30 Years

D. 40 Years **Ans: B**

296) Revised Codal Life Of Civil Engineering Assets- Concrete Sleepers On óDôRoutes

A. 35 Years

B. 20 Years

C. 40 Years

D. 30 Years **Ans: C**

297) Revised Codal Life Of Civil Engineering Assets- Concrete Sleepers On óEôRoutes

A. 35 Years

B. 20 Years

C. 30 Years

D. 40 Years **Ans: D**

298) Revised Codal Life Of Civil Engineering Assets- Elastic Rail Clips On óA&BôRoutes

A. 5-8 Years

B. 8-10 Years

C. 10-12 Years

D. 12-15 Years **Ans: A**

299) Revised Codal Life Of Civil Engineering Assets- Elastic Rail Clips On óC/SubôRoutes

A. 8-10 Years

B. 5-8 Years

C. 10-12 Years

D. 12-15 Years **Ans: B**

300) Revised Codal Life Of Civil Engineering Assets- Elastic Rail Clips On óDôRoutes

A. 5-8 Years

B. 10-12 Years

C. 8-10 Years

D. 12-15 Years **Ans: C**

301) Revised Codal Life Of Civil Engineering Assets- Elastic Rail Clips On óEôRoutes

A. 5-8 Years

B. 18-20 Years

C. 10-12 Years

D. 8-10 Years **Ans: D**

302) Revised Codal Life Of Civil Engineering Assets- Rubber Pads/Liners On óA&BôRoutes

A. 2-4 Years

B. 4-6 Years

C. 6-8 Years

D. 8-10 Years **Ans: A**

303) Revised Codal Life Of Civil Engineering Assets- Rubber Pads/Liners On óC/SubôRoutes

A. 4-6 Years

B. 2-4 Years

C. 6-8 Years

D. 8-10 Years **Ans: B**

304) Revised Codal Life Of Civil Engineering Assets- Rubber Pads/Liners On óDôRoutes

A. 2 Years

B. 6 Years

C. 4 Years

D. 8 Years **Ans: C**

305) Revised Codal Life Of Civil Engineering Assets- Rubber Pads/Liners On ŒEôRoutes

A. 2-4 Years

B. 8-10 Years

C. 6-8 Years

D. 4-6 Years **Ans: D**

306) Revised Codal Life Of Civil Engineering Assets- Switches On óA&BôRoutes

A. 4 Years

B. 6 Years

C. 8 Years

D. 10 Years **Ans: A**

307) Revised Codal Life Of Civil Engineering Assets- Switches On ŒEôRoutes

A. 3 Years

B. 5 Years

C. 7 Years

D. 9 Years **Ans: B**

308) Revised Codal Life Of Civil Engineering Assets- Switches On ŒDôRoutes

A. 3 Years

B. 7 Years

C. 5 Years

D. 9 Years **Ans: C**

309) Revised Codal Life Of Civil Engineering Assets- Switches On óC/SubôRoutes

A. 4/5 Years

B. 6/7 Years

C. 8/9 Years

D. 2/3 Years **Ans: D**

310) Revised Codal Life Of Civil Engineering Assets- Crossings On óA&BôRoutes

A. 5 Years

B. 7 Years

C. 8 Years

D. 10 Years **Ans: A**

311) Revised Codal Life Of Civil Engineering Assets- Crossings On óC/SubôRoutes

A. 6/7 Years

B. 4/5 Years

C. 8/9 Years

D. 2/3 Years **Ans: B**

312) Revised Codal Life Of Civil Engineering Assets- Crossings On đDôRoutes

A. 5 Years

B. 7 Years

C. 8 Years

D. 10 Years **Ans: C**

313) Revised Codal Life Of Civil Engineering Assets- Crossings On đEôRoutes

A. 5 Years

B. 7 Years

C. 10 Years

D. 8 Years **Ans: D**

314) Minimum Distance Centre To Centre Line Of Adjacent Track Is

A. 5.3 Metres

B. 6.3 Metres

C. 4.3 Metres

D. 7.3 Metres **Ans: A**

315) Maximum height of equipment provided between the rails of the track above the rail level is

A. 44 mm

B. 64 mm

C. 54 mm

D. 74 mm **Ans: B**

316) Point machine/ electrical point detector should be provided from nearest C/L of track at a Min. distance of

A. 2.3 Metres

B. 5.3 Metres

C. 1.6 Metres

D. 4.6 Metres **Ans: C**

317) TLJB should be provided from nearest C/L of track at a Min. distance of

A. 1675 mm

B. 1775 mm

C. 1805 mm

D. 1905 mm **Ans: D**

318) Location Box should be provided from nearest C/L of track at a Min. distance of

A. 2360 mm

B. 2475 mm

C. 2860 mm

D. 2960 mm **Ans: A**

319) Signal post should be provided from nearest C/L of track at a Min. distance of

A. 2460 mm

B. 2360 mm

C. 2860 mm

D. 2960 mm **Ans: B**

320) Red aspect of a signal should be from above the rail level at a height of

A. 2.35 Metres

B. 5.35 Metres

C. 3.65 Metres

D. 4.65 Metres **Ans: C**

321) If Foundation Height Is Within 305 Mm From Above The Rail Level, Then Edge Of A Signal Foundation From Nearest C/L Of Track Should Be At A Min. Distance Of

A. 1675 mm

B. 1775 mm

C. 1805 mm

D. 1905 mm **Ans: D**

322) If The Post Is Within 2360 mm From Nearest Centre Line Of Track, Minimum Height Of Signal Post From Above The Rail Level Should Be

A. 3355 mm

B. 3360 mm

C. 4860 mm

D. 4960 mm **Ans: A**

323) If a signalŏs post is at a distance 2360mm from nearest C/L of track and if its height is 4420mm above the rail level then the Signal unit should be at a Min. distance of from nearest C/L of the track

A. 2355 mm

B. 2135 mm

C. 2860 mm

D. 2960 mm **Ans: B**

324) Minimum, Horizontal Distance From Centre Of Track To Any Structure For Existing Works From Rail Level To 305 Mm Above Rail Level

A. 2355 mm

B. 2135 mm

C. 1675 mm

D. 2960 mm **Ans: C**

325) Minimum, Horizontal Distance From Centre Of Track To Any Structure For Existing Works From 305 mm above rail level to 3355 mm above rail level

A. 2355 mm

B. 2435 mm

C. 1675 mm

D. 2135 mm **Ans: D**

326) Minimum, Horizontal Distance From Centre Of Track To Any Structure For Existing Works From 3355 mm above rail level to 4115 mm above rail level

A. 2135 mm decreasing to 1980 mm

B. 3235 mm decreasing to 2780 mm

C. 3435 mm decreasing to 2880 mm

D. 3635 mm decreasing to 2980 mm **Ans: A**

327) Minimum, Horizontal Distance From Centre Of Track To Any Structure For Existing Works From 4115 Mm To 6250 Mm Above Rail Level On Main Line

A. 2355 mm

B. 1600 mm

C. 1675 mm

D. 2135 mm **Ans: B**

328) Minimum, Horizontal Distance From Centre Of Track To Any Structure For Existing Works Below The Rail Level Up To The Formation Level Of The Track On Straight And Curves Up To Radius Of 875 Mts

A. 2355 mm

B. 1600 mm

C. 2575 mm

D. 2135 mm **Ans: C**

329) Minimum, Horizontal Distance From Centre Of Track To Any Structure For Existing Works Below The Rail Level Up To The Formation Level Of The Track On Curves With Radius Less Than 875 Mts

A. 2355 mm

B. 1600 mm

C. 2575 mm

D. 2725 mm **Ans: D**

330) Minimum, Horizontal Distance From Centre Of Track To Any Structure For New Works Or Alteration To Existing Works From rail level to 305 mm above rail level

A. 1905 mm

B. 1600 mm

C. 2575 mm

D. 2725 mm **Ans: A**

331) Minimum, Horizontal Distance From Centre Of Track To Any Structure For New Works Or Alteration To Existing Works From 305 mm above rail level to 1065 mm

A. 1705 mm increasing to 2160 mm

B. 1905 mm increasing to 2360 mm

C. 1605 mm increasing to 1960 mm

D. 1805 mm increasing to 2450 mm **Ans: B**

332) Minimum, Horizontal Distance From Centre Of Track To Any Structure For New Works Or Alteration To Existing Works From 1065 mm above rail level to 3355 mm

A. 1905 mm

B. 2135 mm

C. 2360 mm

D. 2725 mm **Ans: C**

333) Minimum, Horizontal Distance From Centre Of Track To Any Structure For New Works Or Alteration To Existing Works From 3355 mm above rail level to 4420 mm

A. 1905 mm decreasing to 1600 mm

B. 2460 mm decreasing to 2235 mm

C. 2560 mm decreasing to 2335 mm

D. 2360 mm decreasing to 2135 mm **Ans: D**

334) Minimum, Horizontal Distance From Centre Of Track To Any Structure For New Works Or Alteration To Existing Works From 4420 mm above rail level to 4610 mm

A. 2135 mm decreasing to 1980 mm

B. 2460 mm decreasing to 2235 mm

C. 2560 mm decreasing to 2335 mm

D. 2360 mm decreasing to 2135 mm **Ans: A**

335) Minimum, Horizontal Distance From Centre Of Track To Any Structure For New Works Or Alteration To Existing Works From 4610 mm above rail level to 6250 mm

A. 1905 mm

B. 1600 mm

C. 2360 mm

D. 2725 mm **Ans: B**

336) Minimum, Horizontal Distance From Centre Of Track To Any Structure For New Works Or Alteration To Existing Works Below the rail level up to the formation level of the track on straight and curves up to radius of 875 Mts

A. 1905 mm

B. 1600 mm

C. 2575 mm

D. 2725 mm **Ans: C**

337) Minimum, Horizontal Distance From Centre Of Track To Any Structure For New Works Or Alteration To Existing Works Below the rail level up to the formation level of the track on curves with radius less than 875 Mts

A. 1905 mm

B. 1600 mm

C. 2575 mm

D. 2725 mm **Ans: D**

338) Turn-Outs Should Not Be Laid On The Inside Of Curves

A. 1 in 8½

B. 1 in 12

C. 1 in 16

D. 1 in 20 **Ans: A**

339) In Case Of BG There Should Be No Change Of Gradient Within

A. 15 Mts of the point

B. 30 Mts of the point

C. 20 Mts of the point

D. 25 Mts of the point **Ans: B**

340) In Case Of MG There Should Be No Change Of Gradient Within

A. 20 Mts of the point

B. 30 Mts of the point

C. 15 Mts of the point

D. 25 Mts of the point **Ans: C**

341) Beyond Outer Most Point, Permissible Station Gradient Should Extend Up To

A. 20 Mts

B. 30 Mts

C. 40 Mts

D. 50 Mts **Ans: D**

342) Execution of Signaling Works Requiring CRS Sanction

A. New Stations Temporary Or Permanent

B. Provision of telephone at already manned LC gates

C. Provision of electrical or mechanical lifting barriers including emergency interlocked arrangements at already interlocked level crossing gates

D. Provision of all categories of track circuits in the station section **Ans: A**

343) Execution of Signaling Works Requiring CRS Sanction

A. Provision of all categories of track circuits in the station section

B. Additions, extensions or alterations to existing block, signaling and interlocking installations

C. Provision of telephone at already manned LC gates

D. Provision of electrical or mechanical lifting barriers including emergency interlocked arrangements at already interlocked level crossing gates **Ans: B**

344) Execution of Signaling Works Requiring CRS Sanction

A. Provision of all categories of track circuits in the station section

B. Provision of electrical or mechanical lifting barriers including emergency interlocked arrangements at already interlocked level crossing gates

C. Change in block, signalling and interlocking scheme

D. Provision of telephone at already manned LC gates **Ans: C**

345) Execution of Signaling Works Requiring CRS Sanction

A. Provision of all categories of track circuits in the station section

B. Provision of electrical or mechanical lifting barriers including emergency interlocked arrangements at already interlocked level crossing gates

C. Provision of telephone at already manned LC gates

D. Interlocking of level crossing, catch siding, slip sidings etc **Ans: D**

346) Execution of Signaling Works Not Requiring CRS Sanction

A. Provision of all categories of track circuits in the station section

B. Additions, extensions or alterations to existing block, signaling and interlocking installations

C. Change in block, signalling and interlocking scheme

D. Interlocking of level crossing, catch siding, slip sidings etc **Ans: A**

347) Execution of Signaling Works Not Requiring CRS Sanction

A. Additions, extensions or alterations to existing block, signaling and interlocking installations

B. Provision of telephone at already manned LC gates

C. Change in block, signalling and interlocking scheme

D. Interlocking of level crossing, catch siding, slip sidings etc **Ans: B**

348) Execution of Signaling Works Not Requiring CRS Sanction

A. Additions, extensions or alterations to existing block, signaling and interlocking installations

B. Change in block, signalling and interlocking scheme

C. Provision of electrical or mechanical lifting barriers including emergency interlocked arrangements at already interlocked level crossing gates

D. Interlocking of level crossing, catch siding, slip sidings etc **Ans: C**

349) Execution of Signaling Works Not Requiring CRS Sanction

A. Additions, extensions or alterations to existing block, signaling and interlocking installations

B. Change in block, signalling and interlocking scheme

C. Interlocking of level crossing, catch siding, slip sidings etc

D. Replacement of signalling assets without change in yard layout or signalling and interlocking scheme either in station or at mid section level crossing gates

Ans: D

350) Execution of Signaling Works Not Requiring CRS Sanction

A. Replacement of block instruments by any other approved type of instruments or provision of block proving axle counter or track circuiting using existing block instruments

B. Additions, extensions or alterations to existing block, signaling and interlocking installations

C. Change in block, signalling and interlocking scheme

D. Interlocking of level crossing, catch siding, slip sidings etc **Ans: A**

351) Execution of Signaling Works Not Requiring CRS Sanction

A. Additions, extensions or alterations to existing block, signaling and interlocking installations

B. Interlocking of existing LC gates within an already existing interlocked station yard by existing signals in same or shifted location

C. Change in block, signalling and interlocking scheme

D. Interlocking of level crossing, catch siding, slip sidings etc **Ans: B**

352) Signaling Plans (IP) Approved by

A. ASTE

B. DSTE/SSTE

C. CSTE (OR) CSE

D. Dy.CSTE/Sr.DSTE **Ans: C**

353) Locking Tables (LT) Approved by

A. ASTE

B. DSTE/SSTE

C. Dy.CSTE/Sr.DSTE

D. CSTE (OR) CSE **Ans: D**

354) Selection Tables Approved by

A. CSTE (OR) CSE

B. DSTE/SSTE

C. ASTE

D. Dy.CSTE/Sr.DSTE **Ans: A**

355) Locking chart (Dog Chart) Approved by

A. ASTE

B. DSTE/SSTE

C. CSTE (OR) CSE

D. Dy.CSTE/Sr.DSTE **Ans: B**

356) Typical wiring diagrams such as inter-cabin Slotting, Auto signaling, Track Circuit, Indication circuit etc. Approved by

A. ASTE

B. DSTE/SSTE

C. Dy.CSTE/Sr.DSTE

D. CSTE (OR) CSE **Ans: C**

357) Detailed wiring diagrams for individual stations Prepared on the basis of approved Typical wiring diagrams Approved by

A. ASTE

B. CSTE (OR) CSE

C. Dy.CSTE/Sr.DSTE

D. DSTE/SSTE **Ans: D**

358) Typical circuit diagrams for various circuits Such as route locking, approach locking, Sectional route release, point and Signal control, lamp proving circuits, relay interlocking Circuits etc Approved by

A. CSTE

B. ASTE

C. DSTE/SSTE

D. Dy.CSTE/Sr.DSTE **Ans: A**

359) Detailed circuit and wiring diagram based on Typical diagram including those submitted by contractors and Firms (Authorized by CSTE) Approved by

A. ASTE

B. Dy.CSTE/Sr.DSTE

C. DSTE/SSTE

D. CSTE (OR) CSE **Ans: B**

360) Type of Block Working Approved by

A. CSTE (OR) CSE

B. Dy.CSTE/Sr.DSTE

C. CRS

D. RDSO **Ans: C**

361) Type of Block Instruments Approved by

A. CSTE (OR) CSE

B. Dy.CSTE/Sr.DSTE

C. CRS

D. RDSO **Ans: D**

362) Train accidents, Class A (A1 ï A4)

A. All types of collisions

B. Cases of fire and blasts

C. LC gate accidents

D. All types of derailments **Ans: A**

363) Train accidents, Class B (B1 ï B6)

A. All types of collisions

B. Cases of fire and blasts

C. LC gate accidents

D. All types of derailments **Ans: B**

364) Train accidents, Class C (C1 ï C8)

A. All types of collisions

B. Cases of fire and blasts

C. LC gate accidents

D. All types of derailments **Ans: C**

365) Train accidents, Class D (D1 ï D5)

A. All types of collisions

B. Cases of fire and blasts

C. LC gate accidents

D. All types of derailments **Ans: D**

366) Train accidents, Class E (E1-- E2)

A. Collision on obstruction or passing over obstruction but safe

B. Cases of fire and blasts

C. LC gate accidents

D. All types of derailments **Ans: A**

367) Yard accidents (Train is not involved), Class A5

A. All types of derailments

B. All types of collisions

C. Cases of fire and blasts

D. LC gate accidents **Ans: B**

368) Yard accidents (Train is not involved), Class B7

A. All types of derailments

B. All types of collisions

C. Cases of fire and blasts

D. LC gate accidents **Ans: C**

369) Yard accidents (Train is not involved), Class C9

A. All types of derailments

B. All types of collisions

C. Cases of fire and blasts

D. LC gate accidents **Ans: D**

370) Yard accidents (Train is not involved), Class D6

A. All types of derailments

B. All types of collisions

C. Cases of fire and blasts

D. LC gate accidents **Ans: A**

371) Indicative accidents, Class F (F1 ï F4)

A. All types of derailments

B. Averted collisions cases

C. Cases of breach of block rules

D. Signal passing at danger (SPAD cases) **Ans: B**

372) Indicative accidents, Class G (G1 ï G4)

A. All types of derailments

B. Averted collisions cases

C. Cases of breach of block rules

D. Signal passing at danger (SPAD cases) **Ans: C**

373) Indicative accidents, Class H (H1 ï H2)

A. All types of derailments

B. Averted collisions cases

C. Cases of breach of block rules

D. Signal passing at danger (SPAD cases) **Ans: D**

374) Equipment failures, Class J (J1 ï J10)

A. C&W, Loco failures

B. Engg. department failures

C. Electric department failures

D. S&T department failures **Ans: A**

375) Equipment failures, Class K (K1 ï K7)

A. C&W, Loco failures

B. Engg. department failures

C. Electric department failures

D. S&T department failures **Ans: B**

376) Equipment failures, Class L (L1ï L4)

A. C&W, Loco failures

B. Engg. department failures

C. Electric department failures

D. S&T department failures **Ans: C**

377) Equipment failures, Class M (M1ï M7)

A. C&W, Loco failures

B. Engg. department failures

C. Electric department failures

D. S&T department failures **Ans: D**

378) Abnormal incidents, Class N (N1ï N3)

A. Intentionally damages to Rail, train, stations

B. Human run over cases

C. Natural human death, murder, suicide, theft, fire, blasts in railway area

D. Cattle run over cases, Other natural incidents **Ans: A**

379) Abnormal incidents, Class P (P1 ï P3)

A. Intentionally damages to Rail, train, stations

B. Human run over cases

C. Natural human death, murder, suicide, theft, fire, blasts in railway area

D. Cattle run over cases, Other natural incidents **Ans: B**

380) Abnormal incidents, Class Q (Q1 ï Q6)

A. Intentionally damages to Rail, train, stations

B. Human run over cases

C. Natural human death, murder, suicide, theft, fire, blasts in railway area

D. Cattle run over cases, Other natural incidents **Ans: C**

381) Abnormal incidents, Class R (R1ï R5)

A. Intentionally damages to Rail, train, stations

B. Human run over cases

C. Natural human death, murder, suicide, theft, fire, blasts in railway area

D. Cattle run over cases, Other natural incidents **Ans: D**

382) Level Of Enquiry - All Serious Accidents

A. CRS

B. JAG inquiry committee

C. Committee of Senior Scale Officers or junior scale officers

D. Committee of Senior Supervisors **Ans: A**

383) Level Of Enquiry - Other Consequential Train Accidents Except Un-Manned LC Gate Accidents

A. CRS

B. JAG inquiry committee

C. Committee of Senior Scale Officers or junior scale officers

D. Committee of Senior Supervisors **Ans: B**

384) Level Of Enquiry ï Un-manned LC gate accidents

A. CRS

B. Committee of Senior Scale Officers or junior scale officers

C. JAG inquiry committee

D. Committee of Senior Supervisors **Ans: C**

385) Level Of Enquiry - All Other Train Accidents

A. CRS

B. JAG inquiry committee

C. Committee of Senior Supervisors

D. Committee of Senior Scale Officers or junior scale officers **Ans: D**

386) Level Of Enquiry - All Yard accidents

A. Committee of Senior Supervisors

B. CRS

C. JAG inquiry committee

D. Committee of Senior Scale Officers or junior scale officers **Ans: A**

387) Level Of Enquiry - All Cases Of INDICATIVE Accidents

A. CRS

B. Committee of Junior Scale officers

C. Committee of Senior Scale Officers or junior scale officers

D. Committee of Senior Supervisors **Ans: B**

388) Level Of Enquiry - All Equipment Failures

A. CRS

B. JAG inquiry committee

C. Senior Supervisors of respective Dept.

D. Committee of Senior Scale Officers or junior scale officers **Ans: C**

389) Stipulated Days For Completion Of Accident Inquiry At Zonal Railway Level, (D Is Date Of Accident) - Committee Shall Convene The Inquiry Into The Accident

A. D + 7

B. D + 10

C. D + 15

D. D + 3 **Ans: D**

390) Stipulated Days For Completion Of Accident Inquiry At Zonal Railway Level, (D Is Date Of Accident) - Committee Shall Submit The Inquiry Report To DRM/GM*

A. D + 7

B. D + 10

C. D + 15

D. D + 3 **Ans: A**

391) Stipulated Days For Completion Of Accident Inquiry At Zonal Railway Level, (D Is Date Of Accident) - Acceptance Of Inquiry Report By The GM*/DRM/Sr.DSO (Only For Yard Accidents)

A. D + 7

B. D + 10

C. D + 15

D. D + 3 **Ans: B**

392) Stipulated Days For Completion Of Accident Inquiry At Zonal Railway Level, (D Is Date Of Accident) - Inquiry Reports Will Be Finalized By CSO/AGM

A. D + 7

B. D + 10

C. D + 15

D. D + 3 **Ans: C**

393) Stipulated Days For Completion Of Accident Inquiry At Zonal Railway Level, (D Is Date Of Accident) - Report Submission Of Inquiry To CRS For The Section Of The Railways On Which The Accident Occurred With The Remarks. A Copy Of Findings Of The Inquiry Report To Be Sent To Railway Board

A. D + 7

B. D + 10

C. D + 15

D. D + 20 **Ans: D**

394) Stipulated Days For Completion Of Accident Inquiry At Zonal Railway Level, (D Is Date Of Accident) - Action Against Responsible Officials To Be Completed

A. D + 90

B. D + 10

C. D + 15

D. D + 20 **Ans: A**

395) Maximum Vertical Rail Wear For 60 KG Rail

A. 10 mm
B. 8 mm
C. 5 mm
D. 3 mm **Ans: B**

396) Maximum Vertical Rail Wear For 52 Kg & 90 R Rail
A. 10 mm
B. 8 mm
C. 5 mm
D. 3 mm **Ans: C**

397) Maximum Vertical Rail Wear For 75 R & 60 R Rail
A. 10 mm
B. 8 mm
C. 5 mm
D. 3 mm **Ans: D**

398) Maximum Lateral Rail Wear For 60 KG Rail
A. 8 mm
B. 6 mm
C. 5 mm
D. 3 mm **Ans: A**

399) Maximum Lateral Rail Wear For 52 Kg & 90 R Rail
A. 8 mm
B. 6 mm
C. 5 mm
D. 3 mm **Ans: B**

400) Maximum Lateral Rail Wear For 75 R & 60 R Rail
A. 8 mm
B. 6 mm
C. 5 mm
D. 3 mm **Ans: C**

401) Maximum Permissible Vertical Wear On Wing Rails Or Nose Of Crossings
A. 8 mm
B. 6 mm
C. 5 mm
D. 10 mm **Ans: D**

402) Difference Of Wheel Diameter Between Wheels Of Same Axle Should Be Within

A. 0.5 mm

B. 1.5 mm

C. 1 mm

D. 2 mm **Ans: A**

403) Difference Of Wheel Diameter Between Wheels Of Two Adjacent Axles Of The Same Trolley: For Goods Should Be Within

A. 9 mm

B. 13 mm

C. 7 mm

D. 11 mm **Ans: B**

404) Difference Of Wheel Diameter Between Wheels Of Two Adjacent Axles Of The Same Trolley: for Coaching Should Be Within

A. 9 mm

B. 7 mm

C. 5 mm

D. 11 mm **Ans: C**

405) Difference Of Wheel Diameter Between Wheels Of Different Trolleys Of A Bogie: For Coaching: Should Be Within

A. 9 mm

B. 7 mm

C. 11 mm

D. 13 mm **Ans: D**

406) Difference Of Wheel Diameter Between Wheels Of Different Trolleys Of A Bogie: For Goods: Should Be Within

A. 25 mm

B. 30 mm

C. 20 mm

D. 15 mm **Ans: A**

407) For BG/MG Sharp Flange Should be Rejected If Tip Radius Is Less Than

A. 15 mm

B. 5 mm

C. 20 mm

D. 10 mm **Ans: B**

408) For BG/MG Flange Should Be Rejected, if By Wear And Tear Of The Tyre its Thickness becomes less than

A. 25 mm

B. 20 mm

C. 16 mm

D. 30 mm **Ans: C**

CHAPTER 3: SIGNALLING IN 25 KV AC ELECTRIFIED SECTION

409) Max. Limit of Stray Voltage On Track

A. 250 mV
B. 200 mV
C. 150 mV
D. 100 mV **Ans: D**

410) Max. Limit Of Stray Current For Track Circuit Less Than 100m Length

A. 10 mA
B. 20 mA
C. 100 mA
D. 200 mA **Ans: A**

411) Max. Limit Of Stray Current For Track Circuit More Than 100m Length

A. 10 mA
B. 100 mA
C. 20 mA
D. 200 mA **Ans: B**

412) In Case Of DC Track Circuit, Cross bonding between un-insulated rails at every

A. 10 Mts
B. 20 Mts
C. 100 Mts
D. 200 Mts **Ans: C**

413) In Case Of DC Track Circuit, track relay used in AC RE area should be

A. 2.25 ohms relay
B. 4 ohms relay
C. 20 ohms relay
D. 9 ohms relay **Ans: D**

414) Maximum Length Of The Track Circuit When 9 Ohms QTA 2ACI Track Relay With A Choke At R/E is used

A. 450 Mts
B. 550 Mts
C. 650 Mts
D. 750 Mts **Ans: A**

415) Maximum Length Of The Track Circuit When QBAT Track Relay With A Choke At R/E is used

A. 450 Mts

B. 750 Mts

C. 650 Mts

D. 550 Mts **Ans: B**

416) Direct Feeding Of Signals With Unscreened Cable By Using 110 V In Single Line Section

A. 220 Mts

B. 380 Mts

C. 180 Mts

D. 400 Mts **Ans: C**

417) Direct Feeding Of Signals With Unscreened Cable By Using 110 V In Double Line Section

A. 320 Mts

B. 380 Mts

C. 400 Mts

D. 220 Mts **Ans: D**

418) In Regulated Over Head Equipment, Height Of Contact Wire

A. 5.50 Mts

B. 5.75 Mts

C. 4.65 Mts

D. 3.55 Mts **Ans: A**

419) In Un-regulated Over Head Equipment, Height Of Contact Wire

A. 5.50 Mts

B. 5.75 Mts

C. 4.65 Mts

D. 3.55 Mts **Ans: B**

420) In OHE Under bridges, Height Of Contact Wire

A. 5.50 Mts

B. 5.75 Mts

C. 4.65 Mts

D. 3.55 Mts **Ans: C**

421) In OHE Distance between RE masts On straight track

A. 52 Mts
B. 62 Mts
C. 42 Mts
D. 72 Mts **Ans: D**

422) In OHE Staggering of contact wire On straight track
A. 200 mm
B. 175 mm
C. 150 mm
D. 100 mm **Ans: A**

423) In OHE Staggering of contact wire On curves
A. 200 mm
B. 300 mm
C. 250 mm
D. 150 mm **Ans: B**

424) Vertical Clearances between any live part of OHE and part of any fixed structure (Stationery)
A. 200 mm
B. 300 mm
C. 320 mm
D. 270 mm **Ans: C**

425) Vertical Clearances between any live part of OHE and part of any fixed structure(Moving)
A. 200 mm
B. 175 mm
C. 150 mm
D. 270 mm **Ans: D**

426) Lateral Clearances between any live part of OHE and part of any fixed structure(Stationery)
A. 320 mm
B. 300 mm
C. 120 mm
D. 270 mm **Ans: A**

427) Lateral Clearances between any live part of OHE and part of any fixed structure(Moving)
A. 200 mm
B. 220 mm
C. 120 mm
D. 170 mm **Ans: B**

428) Normal Implantation Of RE Mast From The Centre Line Of Nearest Track
A. 1.5 Mts

B. 1.0 Mts

C. 2.5 Mts

D. 2.0 Mts **Ans: C**

429) For A Signal With Horizontal Route The Nearest Part Of The Signal Post From The Centre Line Of Track At A Distance Of

A. 1.645 Mts

B. 2.345 Mts

C. 2.544 Mts

D. 2.844 Mts **Ans: D**

430) The Minimum Distance Between The Signal And The Mast In Front Of It

A. 30 Mts

B. 10 Mts

C. 15 Mts

D. 20 Mts **Ans: A**

431) The Minimum Distance Between The Signal And The Mast Just In Advance Of Signal

A. 5 Mts

B. 10 Mts

C. 8 Mts

D. 7 Mts **Ans: B**

432) As per The Revised New Design norms Catenary current on Single Line

A. 300 A

B. 600 A

C. 800 A

D. 1000 A **Ans: C**

433) As per The Revised New Design norms Catenary current on Double Line

A. 300 A

B. 600 A

C. 800 A

D. 1000 A **Ans: D**

434) As Per The Revised New Design Norms Short Circuit Fault Current For Single Line

A. 6000 A

B. 3500 A

C. 4000 A

D. 5000 A **Ans: A**

435) As Per The Revised New Design Norms Short Circuit Fault Current For Double Line

A. 6000 A

B. 8000 A

C. 4000 A

D. 5000 A **Ans: B**

436) As Per The Revised New Design Norms Soil resistivity is

A. 1000 Ohm

B. 500 Ohm

C. 1500 Ohm

D. 2500 Ohm **Ans: C**

437) As Per The Revised New Design Norms Rail Impedance For Single Line (when both lines are available for Traction return current)

A. 0.550 Ohm/KM

B. 0.560 Ohm/KM

C. 0.670 Ohm/KM

D. 0.701 Ohm/KM **Ans: D**

438) As Per The Revised New Design Norms Rail Impedance For Double Line (when all the four lines are available for Traction return current)

A. 0.561 Ohm/KM

B. 0.661 Ohm/KM

C. 0.760 Ohm/KM

D. 0.701 Ohm/KM **Ans: A**

439) As Per The Revised New Design Norms Rail Reduction Factor For Single Line (when both lines are available for Traction return current)

A. 0.5400

B. 0.3926

C. 0.4926

D. 0.6926 **Ans: B**

440) As Per The Revised New Design Norms Rail Reduction Factor For Double Line (when all the four lines are available for Traction return current)

A. 0.4666

B. 0.3926

C. 0.2666

D. 0.6926 **Ans: C**

441) As Per The Revised New Design Norms Cable-Screening Factor

A. 0.41

B. 0.51

C. 0.71

D. 0.91 **Ans: D**

442) As Per The Revised New Design Norms Induced voltage For Double Line (Only un-screened cable)

A. 95V/KM

B. 35V/KM

C. 55V/KM

D. 75V/KM **Ans: A**

443) As Per The Revised New Design Norms Induced voltage For Single Line (Only un-screened cable)

A. 95V/KM

B. 116V/KM

C. 55V/KM

D. 75V/KM **Ans: B**

444) As Per The Revised New Design Norms Max. Length of parallelism For Double Line

A. 3.8 KM

B. 4.8 KM

C. 2.8 KM

D. 2.1 KM **Ans: C**

445) As Per The Revised New Design Norms Max. Length of parallelism For Single Line

A. 3.8 KM

B. 4.8 KM

C. 2.8 KM

D. 2.1 KM **Ans: D**

446) As Per The Revised New Design Norms Direct feeding range For Signal In Double Line

A. 220 Mts

B. 180 Mts

C. 150 Mts

D. 100 Mts **Ans: A**

447) As Per The Revised New Design Norms Direct feeding range For Signal In Single Line

A. 220 Mts

B. 180 Mts

C. 150 Mts

D. 100 Mts **Ans: B**

448) In 25KV AC Electrified Section, The Following Type Block Instrument Shall Not Be Used

A. Neale's Type Token Instrument

B. FM Type Tokenless Block Instrument

C. Push Button Type Tokenless Block Instrument

D. Double Line Block Instrument **Ans: C**

449) In 25KV AC Electrified Section from the live conductor, No portion of signal post or its fittings shall be at a distance of less than

A. 100 mm

B. 150 mm

C. 175 mm

D. 200 mm **Ans: D**

CHAPTER 4: POWER SUPPLY FOR SIGNALLING

450) Fully charged lead acid cell voltage is
  A. 2.2 Volts
  B. 1.8 Volts
  C. 1.2 Volts
  D. 0.8 Volts **Ans: A**

451) Discharged lead acid cell voltage is
  A. 2.25 Volts
  B. 1.85 Volts
  C. 1.25 Volts
  D. 0.85 Volts **Ans: B**

452) Specific gravity of a charged lead acid cell is
  A. 1000 $\pm$5
  B. 1100 $\pm$5
  C. 1220 $\pm$5
  D. 1180 $\pm$5 **Ans: C**

453) Specific gravity of a discharged lead acid cell is
  A. 1000 $\pm$5
  B. 1100 $\pm$5
  C. 1220 $\pm$5
  D. 1180 $\pm$5 **Ans: D**

454) AC to DC converter is Called
  A. Oscillator
  B. Rectifier
  C. Inverter
  D. Amplifier **Ans: B**

455) DC to AC converter is Called
  A. Oscillator
  B. Rectifier
  C. Inverter
  D. Amplifier **Ans: C**

456) Electrolyte used in lead acid cell
  A. Dilute Hydrochloric Acid

B. Dilute Nitric Acid

C. Dilute Phosphoric Acid

D. Dilute Sulfuric Acid **Ans: D**

457) Initial Charging Voltage at I = 4% of Capacity for lead acid cell

A. 2.7 V/cell

B. 2.2 V/cell

C. 1.85 V/cell

D. 2.0 V/cell **Ans: A**

458) Float charging voltage for lead acid cell

A. 2.4 - 2.7 V /cell

B. 2.12 - 2.3 V /cell

C. 1.85 - 2.0 V /cell

D. 2.7-2.9 V/cell **Ans: B**

459) Boost charging voltage at **I** = 10% of Capacity for lead acid cell

A. 2.7 V/cell

B. 2.2 V/cell

C. 2.4 V/cell

D. 2.0 V/cell **Ans: C**

460) Discharging current for lead acid cell
(C = Capacity of the cell)

A. C/4

B. C/6

C. C/8

D. C/10 **Ans: D**

461) Start Generator if IPS Showing
(DOD = Depth Of Discharge)

A. 50% DOD

B. 60% DOD

C. 70% DOD

D. 80% DOD **Ans: A**

462) Emergency Start Generator if IPS Showing
(DOD = Depth Of Discharge)

A. 50% DOD

B. 60% DOD

C. 70% DOD

D. 80% DOD **Ans: B**

463) System Shut-down if IPS Showing (DOD = Depth Of Discharge)

A. 50% DOD

B. 60% DOD

C. 70% DOD

D. 80% DOD **Ans: C**

464) 110VDC Input supply will be cut-off to all the DC-DC converters, except to Block Tele DC-DC converters if IPS Showing (DOD = Depth Of Discharge)

A. 50% DOD

B. 60% DOD

C. 70% DOD

D. 90% DOD **Ans: D**

CHAPTER 5: COLOUR LIGHT & AUTOMATIC SIGNALLING

465) Diameter of Inner lens of Running signal in CLS unit

A. 140 mm
B. 213 mm
C. 127 mm
D. 101 mm **Ans: A**

466) Diameter of Outer lens of Running signal in CLS unit

A. 140 mm
B. 213 mm
C. 127 mm
D. 101 mm **Ans: B**

467) Diameter of Inner lens of Route indicators Junction type in CLS unit

A. 140 mm
B. 213 mm
C. 92 mm
D. 101 mm **Ans: C**

468) Diameter of outer lens of Route indicators Junction type in CLS unit

A. 140 mm
B. 213 mm
C. 92 mm
D. 127 mm **Ans: D**

469) Diameter of Inner lens of Shunt signal

A. 101 mm
B. 213 mm
C. 92 mm
D. 101 mm **Ans: A**

470) Diameter of outer lens of Shunt signal

A. 140 mm
B. 101 mm
C. 92 mm
D. 127 mm **Ans: B**

471) Normal focal length of Inner lens of Running signal in CLS unit

A. 14 mm

B. 15 mm

C. 13 mm

D. 16 mm **Ans: C**

472) Normal focal length of Outer lens of Running signal in CLS unit

A. 140 mm

B. 213 mm

C. 127 mm

D. 102 mm **Ans: D**

473) Normal focal length of Inner lens of Route indicators Junction type in CLS unit

A. 16 mm

B. 15 mm

C. 13 mm

D. 10 mm **Ans: A**

474) Normal focal length of outer lens of Route indicators Junction type in CLS unit

A. 14 mm

B. 70 mm

C. 92 mm

D. 101 mm **Ans: B**

475) Diameter of tubular CLS Post

A. 127 mm

B. 213 mm

C. 140 mm

D. 102 mm **Ans: C**

476) Diameter of CLS Base

A. 127 mm

B. 213 mm

C. 140 mm

D. 160 mm **Ans: D**

477) Maximum Width of Ladder in CLS unit

A. 25 mm

B. 30 mm

C. 35 mm

D. 40 mm **Ans: A**

478) Max Protection Level of Class-**A** Lightning and Surge Protection Devices

A. >200KV

B. >100KV

C. Ò2.5KV

D. Ò1.5KV **Ans: B**

479) Max Protection Level of Class-**B** Lightning and Surge Protection Devices

A. >200KV

B. >100KV

C. Ò2.5KV

D. Ò1.

E. 5KV **Ans: C**

480) Max Protection Level of Class-**C** Lightning and Surge Protection Devices

A. >200KV

B. >100KV

C. Ò2.5KV

D. Ò1.5KV **Ans: D**

481) Max Protection Level of Class-**D** Lightning and Surge Protection Devices

A. Ò1.2KV

B. >100KV

C. Ò2.5KV

D. Ò1.5KV **Ans: A**

482) Response Time of Class-**A** Lightning and Surge Protection Devices

A. Ò20 n. sec

B. >100 n.sec

C. Ò100 n. sec

D. Ò25 n. sec **Ans: B**

483) Response Time of Class-**B** Lightning and Surge Protection Devices

A. Ò20 n. sec

B. >100 n.sec

C. Ò100 n. sec

D. Ò25 n. sec **Ans: C**

484) Response Time of Class-**C** Lightning and Surge Protection Devices

A. Ò20 n. sec

B. >100 n.sec

C. Ò100 n. sec

D. Ò25 n. sec **Ans: D**

485) Response Time of Class-**D** Lightning and Surge Protection Devices

A. Ò25 n. sec

B. >100 n.sec

C. Ò100 n. sec

D. Ò20 n. sec **Ans: A**

486) Position of Installation Time of Class-**A** Lightning and Surge Protection Devices

A. At the individual equipment

B. On roof top of the Buildings

C. Main Power Supply DB Box at the entry of the input 230V AC in Power/ Equipment room

D. Sub-Power Supply Distribution Box at the group equipment **Ans: B**

487) Position of Installation of Class-**B** Lightning and Surge Protection Devices

A. At the individual equipment

B. On roof top of the Buildings

C. Main Power Supply DB Box at the entry of the input 230V AC in Power/ Equipment room

D. Sub-Power Supply Distribution Box at the group equipment **Ans: C**

488) Position of Installation of Class-**C** Lightning and Surge Protection Devices

A. At the individual equipment

B. On roof top of the Buildings

C. Main Power Supply DB Box at the entry of the input 230V AC in Power/ Equipment room

D. Sub-Power Supply Distribution Box at the group equipment **Ans: D**

489) Position of Installation of Class-**D** Lightning and Surge Protection Devices

A. At the individual equipment

B. On roof top of the Buildings

C. Main Power Supply DB Box at the entry of the input 230V AC in Power/ Equipment room

D. Sub-Power Supply Distribution Box at the group equipment **Ans: A**

490) Earth Resistance Should be Should be < 1 Ý for

A. Body Earths of Chargers

B. All Electronic Equipments

C. Relay racks

D. Location Boxes **Ans: B**

491) Signal Lamps Used For Indication

A. SL 18

B. SL 21

C. SL 5

D. SL 17 **Ans: C**

492) Signal Lamps Used For ON Aspect only

A. SL 18

B. SL 17

C. SL 5

D. SL 21 **Ans: D**

493) Signal Lamps Used For OFF Aspect (Cascaded Ckts.)

A. SL 18

B. SL 21

C. SL 5

D. SL 17 **Ans: A**

494) Signal Lamps Used For OFF Aspect (Non Cascaded Ckts.)

A. SL 18

B. SL 17

C. SL 5

D. SL 21 **Ans: B**

495) Signal Lamps Used For Junction Type Route Indicators

A. SL 18

B. SL 17

C. SL 33

D. SL 21 **Ans: C**

496) Signal Lamps Used For Shunt Signal Series Wiring

A. SL 18

B. SL 33

C. SL 21

D. SL 65 **Ans: D**

497) Signal Lamps Terminal Voltage

A. 90% of lamp's rated voltage

B. 70% of lamp's rated voltage

C. 80% of lamp's rated voltage

D. 85% of lamp's rated voltage **Ans: A**

498) Signal Lamps Terminal Voltage

A. 10.2 V

B. 10.8 V

C. 9.6 V

D. 9.0 V **Ans: B**

499) Signal Transformer Rating

A. 110V / 12V, 80VA

B. 110V / 12V, 60VA

C. 110V / 12V, 40VA

D. 110V / 12V, 20VA **Ans: C**

500) Signal Transformer No Load Current Should Not Be More Than

A. 30 mA

B. 25 mA

C. 20 mA

D. 15 mA **Ans: D**

501) Signal Lamp glow voltage.

A. 1.3 Volt

B. 2.0 Volt

C. 1.8 Volt

D. 2.3 Volt **Ans: D**

502) Fuse rating for 110/12 aspect control circuit.

A. 0.63 Amp

B. 0.73 Amp

C. 0.83 Amp

D. 0.93 Amp **Ans: A**

503) Rated Voltage At Input Terminals Of Current Regulator of LED Main Signal.

A. 90 V $\pm$ 10%

B. 110 V $\pm$ 25%

C. 95 V $\pm$ 20%

D. 100 V $\pm$ 25% **Ans: B**

504) Rated Voltage At Input Terminals Of Current Regulator of LED CO-ON Signal.

A. 90 V $\pm$ 10%

B. 95 V $\pm$ 25%

C. 110 V $\pm$ 20%

D. 100 V $\pm$ 25% **Ans: C**

505) Rated Voltage At Input Terminals Of Current Regulator of LED Route Lighting unit.

A. 90 V $\pm$ 10%

B. 95 V $\pm$ 25%

C. 100 V $\pm$ 25%

D. 110 V $\pm$ 20% **Ans: D**

506) Rated Voltage At Input Terminals Of Current Regulator of LED Shunt lighting unit

A. 110 V $\pm$ 20%

B. 95 V $\pm$ 25%

C. 90 V $\pm$ 20%

D. 100 V $\pm$ 25% **Ans: A**

507) Current at input terminals of current Regulator of LED Main Signal for 110 V AC

A. 110 mA +20%,- 20% (rms)

B. 125 mA +10%,- 20% (rms)

C. 100 mA +10%,- 20% (rms)

D. 115 mA +10%,- 20% (rms) **Ans: B**

508) Current at input terminals of current Regulator of LED CO-ON Signal for 110 V AC

A. 110 mA +20%,- 20% (rms)

B. 105 mA +10%,- 20% (rms)

C. 125 mA +10%,- 20% (rms)

D. 115 mA +10%,- 20% (rms) **Ans: C**

509) Current at input terminals of current Regulator of LED Route Lighting unit for 110 V AC

A. 20 mA ±5% (rms)

B. 115 mA ±10% (rms)

C. 100 mA ±10% (rms)

D. 25 mA ±5% (rms) **Ans: D**

510) Current at input terminals of current Regulator of LED Shunt lighting unit for 110 V AC

A. 55 mA ±5% (rms)

B. 115 mA ±10% (rms)

C. 100 mA ±10% (rms)

D. 25 mA ±5% (rms) **Ans: A**

511) Current at input terminals of current Regulator of LED Main Signal for 110 V DC

A. 110 mA +20%,- 20% (rms)

B. 105 mA +10%,- 15% (rms)

C. 100 mA +10%,- 20% (rms)

D. 115 mA +10%,- 15% (rms) **Ans: B**

512) Current at input terminals of current Regulator of LED CO-ON Signal for 110 V DC

A. 110 mA +20%,- 20% (rms)

B. 105 mA +10%,- 20% (rms)

C. 125 mA +10%,- 15% (rms)

D. 115 mA +10%,- 15% (rms) **Ans: C**

513) Current at input terminals of current Regulator of LED Route Lighting unit for 110 V DC

A. 20 mA ±5% (rms)

B. 115 mA ±10% (rms)

C. 100 mA ±10% (rms)

D. 23 mA ±5% (rms) **Ans: D**

514) Current at input terminals of current Regulator of LED Shunt lighting unit for 110 V DC

A. 50 mA ±5% (rms)

B. 115 mA ±10% (rms)

C. 100 mA ±10% (rms)

D. 25 mA ±5% (rms) **Ans: A**

515) Immunity Level Of DC LED

A. Up to 400 V AC

B. Up to 300 V AC

C. Up to 400 V AC

D. Up to 600 V AC **Ans: B**

516) Immunity Level Of AC LED

A. Up to 70 V AC

B. Up to 80 V AC

C. Up to 60 V AC

D. Up to 90 V AC **Ans: C**

CHAPTER 6: RELAY INTERLOCKING

(Metal – Carbon (BRITISH) Type)

517) As Per Nomenclature Of Relays In Metal ï Carbon (British) Practice TSR means

A. Track Series Relay
B. Track Shunt Relay
C. Track Shift Relay
D. Track Stick Relay **Ans: D**

518) As Per Nomenclature Of Relays In Metal ï Carbon (British) Practice UCR means

A. Route Checking Relay
B. Point Checking Relay
C. Overlap Checking Relay
D. Route Cancelation Relay **Ans: A**

519) As Per Nomenclature Of Relays In Metal ï Carbon (British) Practice GNR means

A. Route Button Relay
B. Signal Button Relay
C. Overlap Button Relay
D. Point Button Relay **Ans: B**

520) As Per Nomenclature Of Relays In Metal ï Carbon (British) Practice UNR means

A. Overlap Button Relay
B. Signal Button Relay
C. Route Button Relay
D. Point Button Relay **Ans: C**

521) As Per Nomenclature Of Relays In Metal ï Carbon (British) Practice WNR means

A. Route Button Relay
B. Signal Button Relay
C. Overlap Button Relay
D. Point Button Relay **Ans: D**

522) As Per Nomenclature Of Relays In Metal ï Carbon (British) Practice GNCR means

A. All Signal Button Normal Relay
B. All Route button Normal Relay
C. All point button Normal Relay
D. All panel Button Normal Relay **Ans: A**

523) As Per Nomenclature Of Relays In Metal ï Carbon (British) Practice UNCR means

A. All Signal Button Normal Relay

B. All Route button Normal Relay

C. All point button Normal Relay

D. All panel Button Normal Relay **Ans: B**

524) As Per Nomenclature Of Relays In Metal ï Carbon (British) Practice WNCR means

A. All Signal Button Normal Relay

B. All Route button Normal Relay

C. All point button Normal Relay

D. All panel Button Normal Relay **Ans: C**

525) As Per Nomenclature Of Relays In Metal ï Carbon (British) Practice NNCR means

A. All Signal Button Normal Relay

B. All Route button Normal Relay

C. All point button Normal Relay

D. All panel Button Normal Relay **Ans: D**

526) As Per Nomenclature Of Relays In Metal ï Carbon (British) Practice GXJR means

A. Signal Lamp Proving Relay

B. Point Indication Proving Relay

C. Signal Main Filament Proving Relay

D. Signal Aspect Checking / Proving Relay **Ans: A**