CHAPTER – 1

METRIC AND ENGLISH SYSTEM

Objective questions

1. CGS System means _____
2. MKS System means_____
3. FPS System means _____
4. CGS & MKS system are _____Systems.
5. FPS is a _____ Systems.
6. SI unit correspond to _____ Systems.
7. 1 inch = _____Cm
8. 1 C.M = _____mm.
9. 1m = _____Cm
10. 1 km = _____m.
11. 1 micron = _____m.
12. Area of a rectangle is _____
13. Area of a triangle is _____
14. A unit of area is _____
15. Volume is expressed in _____
16. I Gallon is _____Liter.
17. Liter is _____ CC.
18. Units of weight are _____
19. 1 Kg is _____Pound.
20. 1 Metric tonne is _____Kgs.
21. 1 Quintal is _____Kgs.
22. Unit of Pressure _____
23. 1 Atmospheric Pressure is _____PSI.
24. 1 Kg / cm^2 is _____PSI
25. 1 Atmospheric pressure is _____Kg / cm^2
26. 1 Metric II.P. is _____ Watts.
27. 1 Kg. is equal to _____Grams.
28. 1 KW_____Watts.
29. Formula for converting ^0F to ^0C is =_____
30. Formula for converting ^0C to ^0F is = _____

CHAPTER – III

IDENTIFICATION AND USAGE OF ELECTRIC HAND TOOLS

1. Type of Pliers used for electrical work are _____, _____, ____
2. The wooden hammer is known as _____.
3. The tenon saw cut the wood in _____direction.
4. _____ No of edge available in electrician knife.
5. Small screwdrivers are called _____.
6. _____ is used for fix the wiring exactly vertical position while doing wiring.
7. _____ is used to hold pipes while threading.
8. _____ is used to remove / tighten a thread pipe.
9. _____ is used to measure the diameter of the copper wire.
10. _____ Caliper measure and accuracy of 0.02 mm.
11. _____ Caliper is used measure out side diameter of the pipe.
12. _____ Caliper is used measure in side diameter of the pipe.
13. _____ is used to measure the single phase supply.
14. _____ saw is used to cut the thick wood.
15. _____ saw is used to cut the thin wood
16. _____ saw is used to cut the conduit and GI pipes.
17. _____ is used for chipping and scrapping unwanted wood.
18. _____ Stone is used for sharpen.
19. _____ is used to drill hole in the wooden piece.
20. _____ is used to make hole on wall to fix pipe used for wiring..
21. _____ hammer is generally used for electrical application.
22. _____ tool is used for soldering.
23. _____ tool is used to check the object in plane or perpendicular.
24. _____ is used for cutting insulation papers for winding.
25. _____ is used for cutting tin sheets.
26. _____ is used to measure the length of wire required for wiring.
27. _____ is used to smoothen the surface of the metal piece.
28. _____ is used to measure the wire gauge.

29. _____ is used to remove the pulley from the shaft of the motor.
30. _____ is used to test 3-phase supply.
31. _____ tool is used to cut the copper pipe for AC application.
32. _____ tool is used to bend the copper pipe for AC application.
33. _____ is for making joints in a copper pipe.
34. _____ is used to remove the nut from the bolt.
35. _____ can be used to remove various size of bolts.
36. _____ is used to make a guide hole for screws in wooden piece.
37. _____ is used for discharging HT supply.

CHAPTER – IV

ELECTRICAL MEASUREMENT AND MEASURING INSTRUMENTS

1. _____ meter is used to measure the current in a circuit
2. _____ meter is used to measure milli ampere.
3. 1 mA = _____ A.
4. Ammeter should connected in _____ with the circuit.
5. _____ meter is used to measure the current in circuit with out disconnecting the connections.
6. _____ type of clip on ammeter is used to measure the battery current.
7. _____ ammeter is used for battery charging / discharging panel.
8. _____ is used along with DC ammeter for measuring high DC current.
9. _____ is used along with AC ammeter to measure higher current.
10. _____ is used to measure voltage in circuit.
11. Voltmeter should be connected in _____ with the circuit.
12. _____ is used along with voltmeter to measure HT voltage.
13. 1 mV= _____ V.
14. _____ is used to measure resistance.
15. _____ is used to measure the insulation resistance of a motor.
16. _____ is used to measure the earth resistance.
17. _____ is used to check the condition of bearing.
18. _____ is used to check the specific gravity of battery electrolyte.
19. _____ is used to measure fight intensity.
20. _____ is used to measure the temperature.
21. _____ is used to measure the pressure in AC system.
22. _____ is used to measure humidity.
23. _____ instrument is used to see the waveform of a signal.
24. _____ instrument is used to check the speed of the motor.
25. _____ is used to measure frequency of a sine wave.
26. _____ is used to create vacuum in AC plant.
27. _____ meter is used to measure power consumed by a load.
28. _____ meter is used to measure electrical energy.
29. State electricity boards are providing _____ meters in industrial consumers for monthly meter reading.
30. _____, _____, _____ & _____ meters are available in trivector meter.
31. _____ meter is used to measure power factor in an electrical circuit.
32. _____ thermometer is used to measure the temperature of a substance with out contact.
33. _____ meter is used to measure the temperature of an oven.

CHAPTER –V
CELLS AND BATTERIES

1. _____ is an Electro chemical device.
2. _____ cell can't be recharged.
3. _____ cells can be recharged.
4. Group of cells is called_____
5. The liquid filled inside a lead acid battery is called _____
6. The positive plate of a fully charged lead acid battery is _____
7. The negative plate of a fully charged lead acid battery is _____
8. The electrolyte used in lead acid cell is _____
9. The container of a lead acid cell is _____ or _____
10. _____ is used to avoid short circuit between + ve & -ve plates inside a cell.
11. The gas inside a lead acid cell escapes through _____
12. When 3 lead acid cells are connected in series the total voltage is _____
13. Gassing inside a battery starts when it is _____
14. Rated voltage of a lead acid cell is _____
15. Rated voltage of a dry cell is _____
16. The capacity of a lead acid cell is denoted in_____
17. The capacity of battery used in TL application _____ AH.
18. The capacity of battery used for under slung AC coaches is _____AH.
19. Capacity of battery used for RMPU coaches is _____
20. The specific gravity of a fully charged 120Ah TL battery will be _____
21. The specific gravity of a fully charged 800Ah battery will be _____
22. Flooded battery shouldn't be discharged below. _____ specific gravity.
23. The flooded battery shouldn't be discharged below. _____V.
24. _____ is applied on the inter cell connections to avoid sulphation.
25. For initial charging of 120 AH TL battery, charging current is _____ A.
26. The reference temperature taken or battery charging is _____ ^{0}C
27. _____ water is used for preparing electrolyte with acid.
28. _____ to be added with_____while preparing electrolyte.
29. _____ type of charging used to change flooded battery during POH.
30. Chemical name for sulfuric acid is _____.
31. When 3-lead acid battery of 120 AH connected in parallel the total voltage is _____ total AH is _____.
32. RMPU coaches use _____ type of battery.

33. _____ and _____ gases are emitted from a fully charged lead acid battery.
34. _____ cells are tested during trip attention.
35. Specific gravity of distilled water is _____
36. Specific gravity of concentrate acid is _____.
37. VRLA battery works in t he principle of _____.
38. The type of separator used in VRLA battery is called_____.
39. The recommended float voltage of a VRLA cell is _____ V.
40. The recommended boost voltage of a VRLA cell is _____ V.

CHAPTER – VI
TRAINLIGHTING SYSTEM

1. The work voltage of self generated TL coaches _____
2. _____ type of Alternator is used for TL application
3. The capacity of alternator used for BG TL coach is _____.
4. In the stator of the brush less alternator _____ & _____ winding are available.
5. _____ Voltage to be applied to the field of an alternator.
6. _____ magnetism will retain in the stator when field winding of alternator is excited by a DC voltage once.
7. The axle pulley diameter is _____ mm PCD.
8. The alternator pulley diameter is _____ mm PCD.
9. The 'V' belt size used in alternator _____
10. Diode is used as a _____
11. _____ is the heart / rectifier cum regulator
12. _____ is used to sense the current in the 4.5 KW alternator.
13. ET is a _____
14. _____ diode is used in a DT?
15. _____ rectifier is used in regulator cum rectifier.
16. Field fuse used in a 4.5 kW rectifier cum regulator is_____A
17. Main fuse used in a 4.5 kW rectifier cum regulator is _____ A.
18. _____ mm fan is used in Train lighting.
19. The wattage a 400-mm sweep fan is _____
20. The make of carbon brushes are _____, _____, _____
21. The wear limit mark of the carbon brush is _____mm.
22. Minimum illumination level of a 1st class coach with IC lamp is _____Lux
23. The illumination level of 1st class couch with FL lamp is _____ Lux.
24. Minimum illumination level of a II class coach with IC lamp is _____ Lux.
25. Minimum illumination level of a II class coach with FL lamp is _____ Lux.
26. The wattage of lamps used in TL coach is _____, _____, _____.
27. The wattage of CFL used in TL coach is _____ W.
28. Size of wire used for TL wiring under frame _____ sq.mm
29. The MCB used for L1 circuit is _____A.
30. The MCB used for L2 circuit is _____ A.
31. The MCB used for F1 circuit is _____ A.
32. The MCB used for SPM Circuit is _____ A.
33. The HRC fuse used for TL battery supply is _____ A.
34. The HRC fuse used in – VE FCJB is _____ A.
35. The SWG fuse wire used for lighting / fan is
36. The wire size used for TL fan / light _____ sq.mm
37. The wire size used for L1 circuit is _____sq.mm
38. The wire size used for regulator to battery is _____ sq.mm.
39. The wire size used for alternator to regulator is _____ sq.mm.
40. Air Clearance of _____mm is specified between any live part & coach body in a 110 V TL coach.
41. Minimum Air between + VE & -VE wire of TL coach wiring is _____mm
42. _____types of fuse wires are used for rewire able fuses in TL coaches.
43 _____ type of test lamp is used to identify coach earth.
44. The maximum voltage drop in a 110 TL coach is _____V.

CHAPTER – VII

AIR CONDITIONING & REFRIGERATION

1. Matter exists in three different states they are _____, _____, _____
2. Pressure is defined as _____
3. Unit of pressure is _____
4. Atmospheric pressure is _____ PSI
5. Refrigeration means _____
6. Sensible heat is defined as _____
7. Freezing points is defined as _____
8. Latent heat is defined as _____
9. Boiling point is defined as _____
10. Boiling point of water is ^{0}C_____
11. BTU is defined as _____
12. K cal is defined as _____
13. Ton of refrigeration means_____
14. The basic parts of a refrigeration system is _____, _____
15. The refrigerant used in under slung AC System is _____
16. The refrigerant used in RMPU AC is _____
17. The refrigerant used in refrigerator is _____
18. The refrigerant used in water cooler is _____
19. The refrigerant used in bottle cooler is _____
20. The function of a brush less alternator _____
21. The capacity of brush less Alternator used in AC coaches are_____ _____ & _____
22. _____ & _____windings are available in stator of the Alternator.
23. Rotor construction of brush less alternator is _____ & _____
24. When a field is exited by a battery _____ magnetism is maintained.
25. The out put voltage of a Alternator depends upon _____ &_____
26. The size of the 'V' belt used in Alternator is _____
27. The full compliment of 'V' belt in Alternator AC coach is _____ nos
28. The rated current of 25 KW Alternator is _____amps.
29. The function of rectifier cum regulator is _____ & _____
30. Converting AC to DC is called _____
31. _____ is the heart of rectifier cum regulator
32. The function of DT is _____
33. In DT _____ diode is used.
34. _____ diode will protect the MA from voltage surges from the field.
35. The field fuse used in a rectifier cum regulator is _____amps
36. Battery means
37. For a fully charged 800 Ah cell the specific gravity will be _____
38. A lead acid cell can be discharged up to _____ specific gravity.
39. A lead acid cell can be discharged up to _____ voltage
40. _____ meter is used to check the specific gravity.

41. _____ is applied in the inter cell and end cell connection to avoid corrosion.
42. Level of electrolyte reduces in the cell after a trip is due to _____
43. _____battery has got less maintenance.
44. The function of the pre-cooling transformer is to _____
45. The pre-cooling transformer converts _____ V to _____ V.
46. _____ & _____ control is used control the output of the pre cooling transformer.
47. The capacity of the pre-cooling transformer is _____ A
48. The function of an inverter in a RMPU coach is _____
49. The temperature setting of cooling pilot relay is _____
50. The temperature setting of heating pilot relay is _____ & _____ degree
51. The direction of rotation of a 3-phase induction motor can be changed by _____
52. The function of compressor is _____
53. The function of evaporator is _____
54. The function of expansion value is _____
55. The capacity of 1 PCA in RMPU coach is _____ ton.
56. The formula for converting in degree Fahrenheit to degree centigrade is _____
57. The LP cut out in RMPU coach is _____ PSI.
58. The HP cut out in RMPU coach is _____PSI.
59. The LP cut out in under slung coach is _____ PSI.
60. The HP cut out in under slung coach is _____ PSI.

CHAPTER – VIII

Basic Electricity, Knowledge about about AC/DC motors , windings

1. Smallest particle of an element is called
2. The particles of an atom are _____
3. The charge of electron is _____
4. The charge of proton is _____
5. The charge of neutron is _____
6. Current means _____
7. Voltage means
8. Resistance means _____
9. Unit of current is _____
10. Unit of Voltage is _____
11. Unit of resistance is _____
12. V = IX _____
13. I = V / _____
14. R = _____ / I.
15. Unit of power is _____
16. Unit of energy is _____
17. Supply from battery is a _____ type of supply.
18. The voltage of a single-phase supply is _____V.
19. The voltage of 3-phase supply is _____ V.
20. The wires of a single-phase supply are _____ & _____
21. The two wires of a DC supply are _____ and _____.
22. The four wires of a 3-phase supply are _____ , _____&_____
23. In single-phase supply Phase to Neutral voltage is _____V.
24. In single –phase supply phase to Earth voltage is _____V.
25. In single-phase supply Earth to Neutral voltage is _____V.
26. In 3-phase supply Phase to Phase voltage is _____V.
27. 11KV = _____V.
28. The frequency of supply available in India is _____Hz.
29. Examples for conductors are _____, _____ & _____.
30. Examples for insulator are _____, _____ & _____.
31. Types of DC motors are -------,------,----------
32. Types of AC motors are -------, --------, ----------
33. Types of starters used for 3 phase motors are --------,----------,--------,--------.
34. ---------- is used to protect the motor from over load.
35. The running current of a 5 HP motor is approximately -------- amps.
36. Single phasing preventor is used for ----------.
37. Types of windings used for motor windings are ------ and ---------.

CHAPTER – IX

TRANSFORMER, OH LINES, CABLES, WIRING AND CONTROL EQUIPMENT

1. Transformer is a _____ device
2. _____ transformer is used to increase the voltage.
3. _____ transformer is used to reduce voltage.
4. Single winding transformer is called _____
5. Transformer has got _____ & _____ winding.
6. Transmission transformer is called _____transformer.
7. _____ transformer is used to cater load to the consumer.
8. _____ oil is used in the transformer.
9. The purpose of transformer oil is to _____
10. _____ is filled in breather of the transformer to remove moisture.
11. Colour of the good silica gel is _____
12. After absorbing the moisture the colour of the silica gel changes to _____
13. _____ is used in the transformer to indicate oil temperature.
14. _____ is used in the transformer to indicate the oil level.
15. _____ will open when the pressure in side the transformer crosses the permissible limit.
16. _____ is used to change the voltage output of a transformer.
17. The capacity of a transformer is rate in _____.
18. 1 MVA = _____ VA.
19. The _____ and _____ of the distribution transformer to be earthen.
20. BDV of transformer oil is measured in _____.
21. To measure high AC current _____ transformer is used.
22. Example of OH conductor is _____.
23. The post to post distance in a OH line is called _____
24. Example for UG cable is _____.
25. In UG cable 3 ½ core means
26. In UG cable _____ is used to product the cable from mechanical damage.
27. _____ joint is used to connect two bits 185 Sq.mm LTUG cables.
28. _____ size of copper cable is used for lights and tans wiring in houses.
29. _____ size of copper cable is used for 5A plug points in houses.
30. _____ size of copper cable is used for 1500W water heater in houses.

EXPAND THE FOLLOWING:

1.	mm		42	FNE	
2.	Cm		43	MCB	
3.	Kg		44	HRC	
4.	gm		45	DFB	
5.	^{0}F		46	BHP	
6.	^{0}C		47	DG	
7.	HP		48	PVC	
8.	k W		49	FRP	
9.	k Wh		50	SPM	
10.	SWG		51	CFL	
11.	A		52	AC	
12.	Ω		53	DC	
13.	W		54	MCCB	
14.	V		55	WRA	
15.	LT		56	LP	
16.	HT		57	HP	
17.	EHT		58	OLR	
18.	Ah		59	DBT	
19.	Pb		60	WBT	
20.	VRLA		61	RMPU	
21.	SMF		62	DCP	
22.	NG		63	CO_2	
23.	BG		64	IGBT	
24.	MG		65	BC	
25.	BCT		66	HPSV	
26.	EFT		67	HPMV	
27.	EOG		68	FL	
28.	MOG		69	IC	
29.	PCD		70	UG	
30.	MA		71	OH	
31.	DT		72	OCB	
32.	ET		73	VCB	
33.	CT		74	TPIC	
34.	KMPH		75	PF	
35.	LX		76	ELCB	
36.	XLPE		77	HOER	
37.	HZ				
38.	SMI				
39.	ERRU				
40.	AHU				
41.	LHB				

ANSWERS

CHAPTER I

1.	Centimeter Gram Second system	16.	4.546 liters
2.	Meter Kilogram Second system	17.	1000 cc
3.	Foot pound second system	18.	Kilogram
4.	Metric	19.	2.205 pound
5.	British	20.	1000 Kgs.
6.	M.K.S System	21.	100 Kgs
7.	2.54 Cm	22.	Kg / cm^2 or PSI
8.	10 mm	23.	14.7 pounds / Sq. inch (or) 1.033 Kg./Cm^2
9.	100 cm	24.	14.225
10	1000 M	25.	1.033
11.	1 / 1000 mm or 10^{-6} M	26.	746 Watts
12	Length X Breadth	27.	1000
13.	½ b X h	28.	1000 watts
14.	M^2 (or) Sq.Mm	29.	C = 5/9 (^{0}F – 32)
15.	M^3 (or) Cubic Mm	30.	F = 9/5 ^{0}C + 32

Chapter III

1.	Combination pliers, Cutting pliers, Round nose Pliers, Flat nose pliers Long nose pliers, Diagonal pliers and Gas pliers				
2.	Mallet	14.	Hand saw	26.	Measuring tape
3.	Forward	15.	Tenon saw	27.	Files
4.	Two	16.	Hack saw	28.	Standard wire gauge
5.	Connector	17.	Firmer chisel	29.	Pulley extractor
6.	Plumb bob	18.	Oil stone	30.	Double test lamp
7.	Pipe vice	19.	Drilling machine	31.	Pipe cutter
8.	Pipe wrench	20.	Rawal jumper	32.	Pipe bender
9.	Micrometer	21.	Ball pen hammer	33.	Brazing
10.	Vernier	22.	Soldering Iron	34.	Spanner
11.	Outside caliper	23.	Try square	35.	Adjustable spanner
12.	Inside caliper	24.	Scissors	36.	Pocker
13.	Single test lamp	25.	Tin cutter	37.	Discharge rod

Chapter IV

1.	Ammeter	13.	10^{-3}	26.	Vacuum pump
2.	Milli Ammeter	14.	Ohm meter	27.	Watt meter
3.	10^{-3}	15.	Insulation megger	28.	Energy meter
4.	Series	16.	Earth megger	29.	Trivector meter
5.	Clip on	17.	Shock pulse meter	30.	KWh, kVh,KVARh, MD
6.	DC	18.	Hydrometer	31.	Power factor
7.	Centre Zero	19.	Lux meter	32.	Infrared
8.	Shunt	20.	Thermometer	33.	Pyrometer
9.	Current Transformer	21.	Pressure gauge		
10.	Volt meter	22.	Hygrometer		
11.	Parallel	23.	Oscilloscope		
12.	Potential transformer	24.	Tachometer		
		25.	Frequency meter		

Chapter V

1.	Cell	18	800 Ah	35	1.0
2.	Primary	19	1100 Ah	36	1.850
3.	Secondary	20	1.210 to 1.220	37	Oxygen recombination
4.	Battery	21	1.245 to 1.255	38	Highly absorbent glass mat(AGS)
5.	Electrolyte	22	1.180	39	2.25V
6.	Lead peroxide	23	1.8	40	2.3V
7.	Spongy lead	24	petroleum gelly		
8.	Diluted sulphuric acid	25	6 A		
9.	Hard rubber , PPCP	26	27 ^{0}C		
10.	separator	27	Distilled		
11.	Vent plug	28	Acid, distilled water		
12.	6 V	29	Constant current		
13.	Fully charged	30	H_2SO_4		
14.	2V DC	31	2, 360Ah		
15.	1.5 V DC	32	VRLA		
16.	Ampere hour (Ah)	33	Hydrogen and oxygen		
17.	120 Ah	34	Pilot		

CHAPTER VI

1.	110 V	24.	16 lux
2.	Brush less	25.	40
3.	4.5 kW	26.	40, 25, 15
4.	3 phase AC and field winding	27.	11
5.	DC	28.	35 sq.mm
6.	Residual	29.	10 A
7.	572.6 mm	30.	10 A
8.	185 mm	31.	16 A
9.	C 122	32.	16 A
10.	Rectifier	33.	32 A
11.	MA	34.	32 A
12.	Shunt	35.	35 swg
13.	Step down transformer	36.	4 sq.mm
14.	Zener	37.	16 Sq.mm
15.	Bridge	38.	35 Sq.mm
16.	6 A	39.	16 Sq.mm
17.	32 A	40.	10 mm
18.	400 mm	41.	4 mm
19.	38 W	42.	Tinned copper
20.	EG3, L16, SG159	43.	Double test with three leads
21.	10 mm	44	3V
22.	30 lux		
23.	60 lux		

CHAPTER VII

1	Solid, Liquid, gas	31	MA
2	Force / unit area	32	Error detector
3	Kg / cm2 or PSI	33	Zener
4	14.7 PSI	34	Free wheeling
5	The process of removing heat from the substance under controlled conditions	35	6A
6	the change in temperature with out changing its state	36	Group of cells
7	The temperature at which a liquid changes into solid state	37	1.245- 1.255
8	It is defined as the change in state without changing its temperature	38	1.180
9	The temperature at which a liquid starts to change in to vapour state	39	1.8V
10	$100\ ^0C$	40	Hydrometer
11	Heat required to raise the temperature of 1 pound of water through 1^0 F	41	Petroleum gelly
12	Heat required to raise the temperature of 1 kg of water through 1^0 C	42	Gassing
13	It is the rate of cooling produced by 2000pounds(lbs) of ice when melting at 32ºF (oºC) in 24 Hours (one day)	43	VRLA
14	Compressor, condenser, expansion value, evaporator	44	Change battery when coach is stationary at Station or yard
15	F12	45	415 V to 110 V
16	F22	46	Fine and course
17	R134a	47	200 A
18	F134a	48	To convert DC to AC
19	F134a	49	24,24,26
20	To generate 3 phase AC voltage	50	19,19,21
21	18,22.75 and 25KW	51	Interchanging any two phases
22	AC winding and DC field winding	52	Increases pressure & temperature of the refrigerant.
23	Teeth and slot	53	Liquid changes in to vapour by absorbing latent heat
24	Residual	54	Decrease the pressure & temperature of liquid refrigerate
25	Field excitation and rotor speed	55	7 ton
26	C122	56	C = 5/9 (F-32)
27	6+6	57	35 PSI
28	193A	58	400 PSI
29	Convert AC to DC Voltage, regulation, current regulation, Over voltage protection	59	10 PSI
30	Rectifier	60	250 PSI

CHAPTER VIII

1	Atom	20	Phase, Neutral
2	Proton, Neutron & Electron	21	Positive, Negative
3	Negative	22	RYB & Neutral
4	Positive	23	230 V
5	Neutral (no charge)	24	230 V
6	Flow of electrons	25	0 V
7	Electrical pressure	26	415 V
8	Opposition to the flow of current	27	11000 V
9	Amps (Amphere)	28	50 Hz
10	V (Volts)	29	Silver, Copper, Aluminum
11	Ω (ohms)	30	Rubber, Mica,Porelum
12	V = I XR	31	Series motor, shunt motor, compound motor
13	I = V / R	32	Squirrel cage motor, slip ring motor, single phase motor
14	R = V / I	33	DOL, Star & delta , Rotor resistance starter
15	Watts	34	Over load relay
16	kWh	35	7.5A
17	DC	36	Protect the motor from single phasing
18	230 V	37	Lap winding , wave winding
19	415v		

CHAPTER IX

1	Static	16	Tap Changer
2	Step up	17	KVA
3	Step down	18	10^6VA
4	Auto transformer	19	Neutral and body
5	Primary & secondary	20	kV
6	Power	21	Current transformer
7	Distribution	22	ACSR
8	Mineral oil	23	Span
9	Cooling& insulation	24	XL PE
10	Silica gel	25	R, Y, R & N
11	blue	26	GI Armor
12	pink	27	Straight through joints
13	Thermometer	28	1/18 (1.5 sq.mm)
14	Oil Indicator	29	3/20 (2.5 sq.mm)
15	Explosion vent	30	7/20 (4 sq.mm)

EXPAND THE FOLLOWING

1	Millimeter	42	Fort Night Examination
2	Centimeter	43	Miniature circuit Breaker
3	Kilogram	44	High Rupturing Capacity
4	Gram	45	Distribution fuse Board
5	Degree Fahrenheit	46	Break Horse Power
6	degree Centigrade	47	Diesel Generator
7	Horse Power	48	Poly Vinyl Chloride
8	Kilo Watts	49	Fiber Reinforced Plastic
9	Kilo Watts hour	50	Socket positive Main
10	Standard Wire Gauge	51	Compact Florescent Lamp
11	Ampere	52	Alternating Current
12	Ohms	53	Direct Current
13	Watts	54	Molded case circuit breaker
14	Voltage	55	Water Raising Apparatus
15	Low Tension	56	Low Pressure
16	High Tension	57	High Pressure
17	Extra High Tension	58	Over Load Relay
18	Ampere hour	59	Dry Bulb Temperature
19	Lead	60	Wet Bulb Temperature
20	Value Regulated Lead Acid	61	Roof Mounded Package Unit
21	Sealed Maintenance Free	62	Dry Chemical Powder
22	Narrow Gauge	63	Carbon Dioxide
23	Broad Gauge	64	Insulated Gate Biopolar Transistor
24	Meter Gauge	65	Binate Cap
25	Battery Charging Terminal	66	High Pressure sodium Vapour lamp
26	Emergency Feed Terminal	67	High Pressure Mercury vapour Lamp
27	End On Generation	68	Florescent Lamp
28	Mid On Generation	69	Integrated circuit
29	Pitch Circle Dia	70	Under Ground
30	Magnetic Amplifier	71	Over Head
31	Detector	72	Oil Circuit Breaker
32	Excitation Transformer	73	Vacuum Circuit Breaker
33	Current Transformer	74	Table Pole Iron Clad Switch
34	Kilometer per hour	75	Power Factor
35	Lux	76	Earth leakage circuit breaker
36	Crossed Link Poly Ethylene	77	Hours Of Employment Regulation
37	hertz		
38	Special maintenance instruction		
39	Electronic Regulator Rectifier Unit		
40	Air Handling Unit		
41	Linke-Hofmann-Busch		