CHAPTER 6
Electrical Installation

1. State the permissible limits of variation of
   a. Voltage
   b. Speed
   c. Current
   d. Frequency
2. Explain the significance of trouble shooting of various electrical machines.
3. Write trouble shooting chart of 3 ph I.M
4. State maintenance schedule of storage batteries.
5. State the external causes of failure of electrical equipment.
6. Enlist the common troubles in electrical installation and cables.
7. Explain the use of:
   a. Growler
   b. Filler gauges
   c. Dial Indicator
   d. Earth tester
   e. Megger
8. Prepare trouble shooting chart for DC Generator and DC Motor
9. Prepare trouble shooting chart for transformer.
10. Prepare trouble shooting chart for single phase induction motor
11. What is single phasing? How it will affect on the performance of 3 ph IM.
12. Give trouble shooting chart for lead acid battery.
13. Explain Murray loop test and fault distance in case of underground cable.
14. State the probable faults in switchgears.
15. Write maintenance schedule for overhead lines, relays and C.B
16. What is MCCB? How it operates?
17. Compare MCB with fuse.
18. What is ELCB? How it operates? State its application.
19. Give constructional details of Megger along its working.
20. What are the protections provided by RCCB?
21. State and explain working of RCCB.
22. Enlist the different tools used in inspection, checking, maintenance and repair works in electrical field.
23. State the uses of sprit level.
24. What are the effects of mis-alignment?
25. List the common trouble in electrical installation.
26. Explain the factors involved in designing the machine foundation.
27. What are the requirements of foundations for installing rotating electrical machines as per IS 900-1992?
28. Explain the procedure to be followed is aligned two shafts to be
    a. Directly coupled
    b. In directly coupled.
29. Enlist various devices and tools in loading and unloading of heavy electrical equipment.
30. What are the factors involved in designing the machine foundation?
31. Explain the procedure for leveling and alignment of electrical machines.
32. What are the factors which are to be considered while designing the foundation for static and rotating machines?
33. What are the requirements of installing rotating electrical machines?

CHAPTER 2
Electrical Estimation and Design
CHAPTER 6
Electrical Installation

1. The main circuit wire in a house is required to carry a current of 45 amperes when connected to single phase a.c. supply. Determine the size of the wire if the length of the circuit is 40 metres.
2. A 33 KV substation is to be Connected to a 11 KV stepdown substation which is at a distance of 1.5 km by a underground cable. If the size of the transformer in the stepdown substation is 500 KVA, determine the size of the cable.
3. An underground cable is to be connected to a multi-storey building with the feeding substation at a distance of 2 km. The connected load is 500KW at 400 volts at a diversity factor of 0.7 and p.f as 0.8. Suggest if the building can be directly connected by a L.T. feeder from the substation
4. A 6.6. KV feeder of length 1 km is to be erected to feed on Industrial substation of 500 KVA. capacity. Find out the suitable size of A. C. S. R?, conductor to be used for the purpose.
5. An 11 KV overhead line is to be erected for feeding a substation at a distance of 5 km which has to feed the following connected L. T. load. Determine the size of conductor and transformer
   Load: (i) Lighting: 210 KW (Single phase)
   (ii) Fans, a- conditioner :66 KW (Single phase)
   (iii) Industrial :200 KW ('three phase)
6. The main circuit wire in a house is required to carry a current of 45 amperes when connected to single phase a.c. supply. Determine the size of the wire if the length of the circuit is 40 metres.
7. A room is to be wired for single phase ac. Supply directly taken from mains which has declared voltage of 200 volts. The length of the wire from the main switch to sight and plug points is 30 metres. lithe wire is to carry 5 amps determine the size of conductor.
8. Determine the size of underground cable to be laid for transmitting electrical energy at 11 "from the substation to the distribution substation at a distance of 500 metres of capacity 300 KVA.