



- 1) Explain Function & Necessity of a starter.
- 2) why the starting current drawn by a d.c motor is quite high when it connected directly to the rated voltage supply.
- 3) Explain with a neat sketch, the operation of 3-point starter.
- 4) What are the drawbacks of a three point starter? what is the difference between 3-point & 4 point starter.
- 5) Function & Necessity of A.C starter.
- 6) Grading of starting Resistance for D.C shunt motor - Explain in brief.
- 7) Grading of starting Resistance for D.C series motor - Explain in brief.
- 8) Grading of starting resistance for Induction motor - Explain in brief.
- 9) Problems - Design AC/DC motor starter.

10] Function & Necessity of field Regulator  
in case of d.c shunt motor - Explain

11] Explain : Function & Necessity of field  
Regulator in case of shunt generator.

12] Design problems on Field Regulator.

13] § Explain: choke coil and also write  
steps for design choke.

14] Design problems base on choke  
coil.





## FAQ of Electric Drive Semester- 6 (Diploma)

1. Write the brief note on the source employed in electrical drives.
2. State the advantage of an electric drive system and also answer which type of drive is used for rolling mills.
3. Discuss about choice of AC and DC drive in detail.
4. Explain thermal model of motor for heating and cooling.
5. Explain dynamic rheostatic and regenerative braking.
6. Explain the various advantages electrical machine drives.
7. Explain operation of electrical drive in all four quadrants.
8. List of close loop control of electrical drive and explain any one.
9. Briefly describe the operation of single phase cyclo converter with necessary waveform.
10. Briefly discuss the operation of current source inverter with necessary waveform.
11. Why are used voltage source inverters (VSI) in induction motor control?
12. Explain the function of various converters.
13. Explain VFD method of an I.M.
14. Describe the dynamics method of electrical drives.
15. Explain any one solid state speed control of single phase drive.
16. Draw the speed-torque curves of different motors on a common plot and explain the same.
17. Explain self controlled synchronous motor drive employing cyclo converter.
18. Explain separately excited DC drive controlled by chopper.
19. Explain self controlled synchronous motor drive employing close loop control.
20. Explain single phase dual converter.
21. Explain the principle of two modes of variable frequency control in three phase synchronous motor.
22. Explain the D.C. drive chopper control for electrical vehicle.
23. Describe the list of various advance electrical machine drives and explain any one.
24. Explain advantage and disadvantages of stepper motor.
25. Explain the working of solar powered pump drives.

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## F.A.Qs for Diploma 6<sup>th</sup> Semester- Electrical Installation, Commissioning and Maintenance (3360902)

1. State the point included in the installation of transformer.
2. State the four properties of insulating oil.
3. State & explain the factors to be considered in designing the foundation of electrical machines.
4. State safety precautions should be taken while unloading heavy machines.
5. State the function of spirit level, screw driver, tri square.
6. State the four methods of drying a winding of electrical machine.
7. Explain how the phase sequence of three phase machine can be checked.
8. Explain the need of gradual loading of electric machines.
9. Explain the sludge test on transformer oil.
10. State the specific test carried out on transformer & alternator.
11. State the specific test carried out on induction motor & synchronous motor.
12. Define and state the advantages of preventive maintenance.
13. State the ill effect of misalignments of shaft on machine performance
14. Explain polarization index in detail.
15. Write notes on frequency of maintenance.
16. Prepare the maintenance schedule for overhead transmission line.
17. Prepare the maintenance schedule for storage battery.
18. Reasons for failure of electrical Equipment.State the function of preventive maintenance department.
19. Prepare yearly maintenance schedule for induction motor.
20. State probable faults in induction motor due to poor maintenance.
21. DC motor runs slowly. State four reasons for it.
22. State two advantages of trouble shooting charts.
23. Explain how the phase sequence of three phase machine can be checked.
24. State the equipment required for trouble shooting.
25. State the function of wire guage, filler guage, sand paper.
26. Prepare the trouble shooting chart for DC motor with respect to following faults.
  1. Motor over heats.
  2. Motor runs with increased speed.
27. Prepare the trouble shooting chart for transformer with respect to following faults.
  1. Excessive noise.
  2. Excessive increase in temperature.
28. Prepare the trouble shooting chart for tube light.
29. State the types of earth electrodes.
30. State the four methods of measuring the earth resistance.
31. Explain the measurement of earth resistance by means of earth loop tester.
32. Explain the plate earthing.
33. State the factors on which the earth resistance depends.
34. State portable type of fire extinguisher.
35. Explain "permit to work" in short.

## IMP Questions

## Elements of protection



- 1 State necessity of back up protection & write types of back up protection. (2) marks or (3)
- 2 Give the diff. bet<sup>n</sup> protective transformer & instrument transformer. (3 or 4)
- 3 Give the diff. bet<sup>n</sup> current transformer and potential transformer (3 or 4)
- 4 Write advantage of neutral earthing. (4)
- 5 Explain working of Peterson coil neutral earthing with diagram. (4)
- 6 Explain ratio error & phase error in CT. (3 or 4) MIMP
- 7 State the adv. & Dis. of Unit protection.
- 8 State the desirable characteristics of protection system.