

- Q. 3 A. A 8 pole 3 phase ,50 Hz Induction Motor has rotor resistance per phase of 0.07Ω Its maximum torque occurs at a speed of 700 rpm Find the additional resistance required in the rotor circuit to obtain maximum torque at the starting. 3
- B. Explain capacitor start capacitor runsingle phase Induction Motor in detail. 4
- C Explain, the starting torque in single phase motor is zero. Enlist various methods used to obtain starting torque in the 1 phase induction motor 3
- Q. 4 A. What are the modifications done in DC series motor so that it may work satisfactorily on an ac supply.(construction ,working and application) 3
- B. Explain why stationary armature and rotating field system is used in case of 3 phase alternators?
What is synchronous reactance of an alternator ? how it is calculated by Synchronous impedance method 4
- OR**
- B A 3 phase, star connected,50 Hz alternator has 96 conductors per phase and a flux of 0.15 wb per pole. The synchronous reactance is 5Ω per phase and resistance of the armature is negligible. Calculate terminal voltage when three star connected resistances, each of 10Ω are connected to the terminals as a load. 4
- C Explain vertical core type type furnace (Ajax Wyatt furnace) in detail. 3
- Q.5 A Explain how to design a heating element 1) ribbon type 2) with cross section area. 3
- B Explain eddy current heating in detail with suitable diagram, merits and demerits and application of the same. 4
- C Write the types of resistance welding and explain any with the applications. 3
- OR**
- C What is extraction and refining of metals? Explain giving one example each 3