

Register No.:

1891

October 2024

Time – Three hours
(Maximum Marks: 100)

- [N.B.]**
1. Answer all questions under Part-A. Each question carries 3 marks.
 2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART – A

1. List the different types of armature slots in an alternator.
2. Define critical speed of an alternator.
3. What is infinite bus bar?
4. Define: synchronous reactance and synchronous impedance.
5. Derive an expression for the starting torque of a three phase induction motor.
6. What is cogging? How it is prevented?
7. Why a single phase induction motor is not self starting?
8. List the methods used for starting a synchronous motor.
9. What is the need for BIS codes of practice for induction motors?
10. What is static balancing?

[Turn over.....

PART – B

11. (a) Explain the stator and rotor constructional details of a salient pole alternator.
(Or)
(b) Explain the methods of ventilation in turbo alternators.
12. (a) How voltage regulation of an alternator can be predetermined by using ZPF method? Explain.
(Or)
(b) Describe the synchronizing of two alternators by dark lamp method.
13. (a) How a rotating magnetic field is established in a three phase induction motor? Explain with necessary diagrams.
(Or)
(b) Write notes on: (i) Double cage induction motor (ii) Induction generator.
14. (a) Explain the construction and working of a permanent capacitor induction motor. Also draw its speed torque characteristics.
(Or)
(b) How 'V' curves and inverted 'V' curves are obtained in a synchronous motor? Explain.
15. (a) Explain the factors to be considered while selecting the size of the cables.
(Or)
(b) Discuss about how vacuum impregnation process is carried out for induction motors.
-