

568

Register No.:

April 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. What are the requirements of an alternator?
2. Why cooling is necessary for alternators?
3. What is meant by effective resistance?
4. What are the advantages of parallel operation of alternators?
5. Compare squirrel cage and slip ring induction motor.
6. Write down the expression for relationship between slip and slip frequency.
7. Write about hunting and its prevention.
8. State the application of a split phase motor.
9. What is meant by static balancing?
10. List the classification of cage motor.

[Turn over.....

PART - B

11. (a) (i) Explain the types of armature winding used in alternators. (7)
(ii) State the differences between salient pole rotor and cylindrical rotor. (7)

(Or)

- (b) (i) Derive an expression for the EMF equation of an alternator. (10)
(ii) Derive an expression to find the relationship between frequency speed and number of poles. (4)

12. (a) Explain the effect of armature reaction of alternators for various power factor loads.

(Or)

- (b) Explain how regulation of alternator is determined by conducting direct load test.

13. (a) Explain the following with a neat sketch: (i) star delta starter, (ii) auto transformer starter.

(Or)

- (b) Explain with neat sketches the construction details of slip ring induction motor.

14. (a) Explain the construction, working and speed torque characteristics of a capacitor start and capacitor run induction motor.

(Or)

- (b) Explain the principle of operation of a synchronous motor.

15. (a) Discuss the points to be attended during annual maintenance of induction motors.

(Or)

- (b) Explain the causes for the troubles that occur in an induction motor.
