

771

Register No.:

November 2022

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. Calculate the speed of a 4 pole alternator operating at a frequency of 50 Hz.
2. What are the requirements of an alternator?
3. What are the causes for change in terminal voltage in an alternator?
4. Draw the load characteristics curve of an alternator for different power factors.
5. Compare squirrel cage and slip ring induction motor.
6. Derive 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 the need for BIS codes of practice for induction motors?
10. What are the classifications of squirrel cage induction motors?

[Turn over....

PART - B

11. (a) Explain the working principle of alternator with necessary diagrams.

(Or)

- (b) Explain the stator and rotor construction details of a salient pole alternator.

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

(Or)

- (b) Explain Open circuit test and Short circuit test conducted on an alternator.

13. (a) Explain the following with 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 construction, working and speed torque characteristics of a shaded pole induction motor.

15. (a) Explain the factors to be considered while selecting the size of cables.

(Or)

- (b) Explain the various types of enclosures used for induction motor.
