



(Pages : 2)

A – 2359

Reg. No. :

Name :

**Eighth Semester B.Tech. Degree Examination, April 2016
(2008 Scheme)**

08.806 : Elective – V (i) : SPECIAL ELECTRICAL MACHINES (E)

Time : 3 Hours

Max. Marks : 100

Instruction : Answer *all* questions from Part A. Answer *one full* question from *each* Module of Part B.

PART – A

1. Draw the torque speed characteristics of a.c. servomotor.
2. Explain the construction of Drag-cup servomotor.
3. Compare switched reluctance motor and synchronous reluctance motor.
4. Differentiate between bifilar and monofilar winding.
5. What is microstepping ? Explain any one method.
6. Explain any one type of linear motors.
7. State some application of stepper motor.
8. Discuss the torque-slip characteristics of a hysteresis motor.
9. Draw the torque slip characteristics of reluctance motors.
10. Mention two application of linear induction motor.



PART – B

Module – I

11. a) Explain with a neat sketch the modification that are made in d.c. servomotor to operate as a series split d.c. servomotor. 10
- b) Explain the working of an A.C. servomotor with a neat circuit. Also develop the transfer function of ac servomotor. 10

OR

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A – 2359



12. a) Explain the construction details and working of variable reluctance stepper motor having the configuration 3 phase, 6/2 pole. Also find the step angle and the number of steps per cycle. 12
- b) Mention some applications of stepper motor. 8

Module – II

13. a) Explain the working principle and different types of switched reluctance motor. 20
- b) Explain the construction details of hysteresis motor with neat sketches.
- c) Mention two applications of hysteresis motor. 20

OR

14. a) Explain the construction and principle of operation of reluctance motor. 10
- b) Obtain the torque-equation of reluctance motor. 10

Module – III

15. a) With neat circuit explain the working of a brushless dc motor. 10
- b) Mention some application of brushless dc motor. 4
- c) Write a note on trapezoidal type brushless dc motor. Draw the waveform. 6

OR

16. a) Explain the different types of linear induction motor from constructional view point. 8
- b) Explain transverse edge, effect in linear induction motor. 6
- c) Draw the equivalent circuit of linear induction motor and explain. 6