

R09

Code: 9A02804

B.Tech IV Year II Semester (R09) Advanced Supplementary Examinations, July 2013

SPECIAL ELECTRICAL MACHINES

(Electrical and Electronics Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

- 1 Draw and explain:
 - (a) Shunt booster.
 - (b) Reversible booster.

- 2 Explain in detail Rosenberg generator with diagrams.

- 3
 - (a) Explain the construction and operation of synchronous inductor.
 - (b) Explain the control circuits for stepping motors.

- 4 Explain in detail:
 - (a) Multiple stack variable reluctance step motors.
 - (b) Closed loop control of 3-phase variable, reluctance step motors.

- 5
 - (a) Explain the principle of operation of switched reluctance motor.
 - (b) Write down some distinctive differences between switched reluctance and conventional reluctance motors.

- 6
 - (a) Discuss the development of electronically commutated DC motor from conventional DC motor.
 - (b) Explain the equivalent circuit of a PM.

- 7 Explain the construction and principle of operation of brushless DC motor.

- 8
 - (a) Write down the fundamental assumptions made for the field analysis of DSLIM (Double sided linear induction motor).
 - (b) Write down the development of a double sided linear induction motor from rotary type induction motor.
