Code: 9A02804

R09

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

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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.

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