M. Tech –I Semester Supply Examinations, February, 2016
ELECTRICAL MACHINE MODELLING AND ANALYSIS
(Common to PE, PE&D, PE&ED, P&ID and EM&D)

Time: 3 Hours   Max Marks: 60

Answer any FIVE questions
All questions carry EQUAL marks
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1. (a) Explain the need and method for two-pole machine representation of a commutator machine.
   (b) Explain the speed torque characteristics of a synchronous machine.

2. Explain the transient analysis of separately excited DC motor for a practical transient situation.

3. Derive the transfer function of a shunt motor and analyze the transfer function.

4. What is the need for phase transformation? Explain the technique used for three phase quantities to two phase transformation.

5. Discuss the modelling and explain the analysis part of single phase shaded pole type induction motor.

6. Derive and explain the three phase induction machine modelling with stator reference frame.

7. Discuss the modelling aspects of a BLDC motor and explain its analysis part.

8. Explain the modelling aspects of switched reluctance motor and discuss its applications.

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