MEE-104

Roll No. | | | | | | | | | | |

M. Tech.

(SEM I) ODD SEMESTER THEORY EXAMINATION, 2015-16

MODELLING AND SIMULATION OF ELECTRIC MACHINES

Time: 3 Hours ***Maximum Marks: 100***

Note: *This paper contains eight questions. Attempt **any FIVE** questions.*

Q1. Explain the meaning of reference transformation. Write a historic note on the evolution of the process.

Q2. Explain the a-b-c to d-q transformation with the help of phasor diagrams.

Q3. What is eletro-mechanical energy conversion process? Explain.

Q4. What are energy and co-energy in eletro-mechanical energy conversion? Derive their expressions.

Q5. Explain the principle of operation of a DC motor. Explain how the modeling of a DC motor is done.

Q6. Prove that Induction machine is a non-linear system. Explain the modeling of an Induction machine.

Q7. Explain the principle of operation of a synchronous generator.

Q8. Draw and explain a MATLAB based model to study the closed loop speed control of a DC motor.