Total No. of Printed Pages:1

SUBJECT CODE NO:- H-1753
FACULTY OF SCIENCE AND TECHNOLOGY
M.E. (Electrical Power System)
Electrical Machine Analysis & Modeling
(REVISED)

[Time: Three Hours]   [Max. Marks: 80]

Please check whether you have got the right question paper.

N.B
        i) Attempt any two questions from each section.
        ii) Assume suitable data wherever necessary.
        iii) Figure's to the right indicates full marks.

Section A

Q.1 a) Derive the voltage equation of magnetically coupled circuit. Draw the equivalent circuit assume 10
           linear magnetic circuit.
      b) Explain the winding configuration and air gap mmf of 2-pole, 3-ph Y- connected synchronous 10
           machine.

Q.2 a) Explain the block diagram of direct current machine. 10
      b) Explain the dynamic performance of shunt motor supplied from constant voltage source. 10

Q.3 a) Explain the transformation between reference frames. 10
      b) Apply qdo transformation to the resistive elements. 10

Section B

Q.4 a) Derive the voltage equation in terms of machine variables of 2-pole 3-ph symmetrical induction 10
           machine.
      b) Explain the dynamic performance of induction machine during sudden change in load torque. 10

Q.5 a) Explain the torque equation in machine variables of 2-pole, 3-phase salient pole synchronous 10
           machine.
      b) Explain the dynamic performance of symmetrical synchronous machine during sudden change in 10
           input torque.

Q.6 a) Explain hydraulic turbine and its governing system. 10
      b) Explain the modelling of boiler. 10