

SUBJECT CODE NO:- P-8013
FACULTY OF ENGINEERING AND TECHNOLOGY
M.E. (Electrical Power System) Examination May/June 2017
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 question from each section
 - ii) Assume suitable data wherever necessary
 - iii) Figure to the right indicate full marks

Section A

- Q.1 a) Derive the voltage equation of liner magnetic circuit. Also draw the equivalent circuit 10
- b) Derive the relation to find winding inductance in 3-ph, 2-pole symmetrical induction machine 10
- Q.2 a) Derive the voltage equation in machine variables for D.C. shunt machine 10
- b) Explain dynamic performance of D.C machine during sudden change in load 10
- Q.3 a) Explain the equation of transformation 10
- b) Apply Qdo transformation to the inductive element 10

Section B

- Q.4 a) Derive the equation of transformation for rotor circuit of symmetrical induction machine 10
- b) Explain the dynamic performance of symmetrical induction machine during a 3 phase fault and machine terminal 10
- Q.5 a) Derive the voltage equation in machine variables of 2- pole , 3-ph salient synchronous machine 10
- b) Explain the dynamic performance of synchronous machine during sudden change in input torque 10
- Q.6 a) Explain Hydraulic turbine and their governor system 10
- b) Explain basic load modeling concept and explain any one model 10