Roll No. | | | | | | | | | | | | Total No. of Pages : 01

Total No. of Questions : 08

M.Tech. (Electrical Power System) (2018 Batch) (Sem.–2)

DYNAMICS OF ELECTRICAL MACHINES

Subject Code : EEPS-203C-18

M.Code : 76086

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWELVE marks.**

1. Derive voltage equation of a primitive four winding machine.

2. Deduce Parks transformations relating the 3-phase currents of a synchronous machine to its corresponding d-q axis currents. Express three phase currents in terms of d-q axes currents and its inverse.

3. Analyze torque equation of a simple DC machine using primitive machine equation.

4. Draw generalized mathematical model to induction machine and obtain transformed impedance matrix.

5. Derive synchronous machine equations for small oscillations.

6. Explain dynamic performance of an alternator feeding induction motor.

7. A D.C motor is coupled to D.C. generator and acting as prime mover to generator. Obtain c-matrix of interconnected system and derive combined Z matrix in steady state operation.

8. An alternator is supplying to synchronous motor and are in synchronism. Obtain steady state matrix equation of the system.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.