

Roll No. 

Total Pages : 2

8123

BT-3/D09

ELECTROMECHANICAL ENERGY CONVERSION

Paper : ELE-201(E)

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt *five* questions, selecting at least *one* question from each unit. All questions carry equal marks.

UNIT-I

1. Discuss the magnetic materials generally used in electrical machines. With the help of diagrams, discuss the constructional details of a single phase transformer. Develop its e.m.f. equation.
2. Discuss various tests required to determine the equivalent circuit parameters of a transformer.

UNIT-II

3. (a) Develop the expression for energy and force in a singly excited magnetic field system.
(b) With the help of neat diagram, explain the procedure to determine the magnetic characteristics of a d.c shunt machine.
4. Develop the expression for generated e.m.f. in a d.c. generator. Explain the e.m.f. build-up in a d.c. shunt generator.

UNIT-III

5. Develop the expression for torque for a three-phase induction motor. Draw and explain its torque-slip characteristics.

8123/6400/KD/57

[P.T.O.

6. Explain the ways to control the speed of three-phase induction motors.

UNIT-IV

7. Drive voltage regulation for an alternator. Give its importance. List the various methods and discuss the m.m.f method to determine voltage regulation.
8. Discuss V-curves and starting of synchronous motors.
-