Roll No. _____ Total Pages : 1

8472

BT-3/D05

Electromechanical Energy Conversion (2004-05)

PAPER - ELE-201E

Time : 3 Hrs. Maximum Marks : 100

Note : Attempt any five questions.

1. a. Explain Force on a current carrying conductor lying in a Magnetic Field. 10
   b. Explain static and dynamic emfs. 10
2. a. Explain equivalent Circuit of a single phase transformer. 15
   b. Explain open circuit test of a single phase transformer. 5
3. a. Explain production of Force and Torque in a Magnetic Field system. 10
   b. Explain Forces and Torques in systems with permanent magnets. 10
4. Explain working of dc generator and dc motor. 20
5. a. Explain working of three phase induction motor and single phase induction motor. 10
   b. Explain Dually field revolving theory of Single Phase induction motor. 10
6. Explain various methods of speed control of three phase induction motor. 20
7. a. Explain advantages of stationary armature in sychronous machine. 6
   b. Explain voltage regulation of an alternator and method to determine it. 6
   c. Compare synchronous and induction motor. 8
8. a. Explain method of starting of synchronous motor. 5
   b. Explain working of synchronous generator and motor. 15

Roll No. _____ Total Pages : 1

8487

BT-3/D05

Electromechanical Energy Conversion

(According to Syllabus Dec. 2004)

PAPER - ELE-201E

Time : 3 Hrs. Maximum Marks : 100

Note : Attempt any five questions, selecting at least One from each section.

SECTION-I

1. a. Compare magnetic and electric circuits. 15
   b. Explain hysteresis and eddy current losses. 5
2. a. Explain Scott connection of three phase transformers. 10
   b. Explain phasor diagram of a single phase transformer. 10

SECTION - II

3. Explain energy and force in a sinlgy excited magnetic field system. Explain dynamic equations. 20
4. Explain different characteristics of dc gererator and dc motor. 20

SECTION - III

5. Explain different methods of starting of three phase induction motors. 20
6. Explain double field revolving theory of single phase induction motors. How can we make single phase induction motor sets starting ? 20

SECTION-IV

7. Explain basic principle of synchronous generator. Explain voltage regulation and how to determine it. 20
8. Explain principle of operation of a synchronous motor and its method of starting. Explain construction of V-Curves. 20