Roll No. ..... Total Pages : 2

BT-3/DX **8317**

ELECTROMECHANICAL ENERGY CONVERSION

Paper : ELE-201E

Time : Three Hours] [Maximum Marks : 100

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

UNIT–I

1. What are the advantages of parallel operation of transformers ? Give and explain the various conditions which are to be fulfilled for successful parallel operation.

2. With the help of suitable examples differentiate between static and dynamic induced emf. What are the ways to reduce core losses in a transformer ? Develop its equivalent circuit.

UNIT–II

3. (a) Differentiate between energy and co-energy. Develop the expression for torque in a singly excited magnetic field system.
   (b) Discuss field control of dc shunt motor and dc series motor.

4. With the help of neat diagrams explain the constructional features of a dc machine.

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UNIT–III

5. With the help of neat diagrams explain the construction and working of a three phase induction motor.

6. Explain double revolving field theory as applied to single phase induction motors. Use it to develop its equivalent circuit. http://www.kuonline.in

UNIT–IV

7. Define voltage regulation for an alternator. What is the necessity to compute it ? Discuss the e.m.f. method to compute it. Why this method does not give accurate results, explain ?

8. Describe the advantages of providing field winding on the rotor in case of a synchronous machine and give the constructional details for two types of synchronous machines.

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