

GUJARAT TECHNOLOGICAL UNIVERSITYPDDC 2ND Semester Examination – July- 2011**Subject code: X21901****Subject Name: Electrical Machines And Electronics****Date:13/07/2011****Time: 10:30 am – 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) Explain the Internal and external characteristics of D.C. Generator. **07**
 (b) What is significance of brush and commutator in D.C Generator **07**

Q.2 (a) Explain the different losses occur in D.C. Motor. **07**
 (b) What is the necessity of starter in D.C. motor? Explain three point starter. **07**

OR

(b) Explain torque-slip curve of induction motor. **07**

Q.3 (a) Explain the three phase rotating magnetic field theory for induction motor **07**
 (b) What is the merits and demerits of Induction motor? Give comparison between squirrel-cage induction motor and slip-ring motor **07**

OR

Q.3 (a) Explain parallel condition for two alternators and procedure for parallel operation of two alternators. **07**
 (b) Derive the E.M.F equation for single phase and three phase transformer. **07**

Q.4 (a) Give comparison between A.C. supply system and D.C supply system. **07**
 (b) What are the causes of low power factor? What are the demerits of low power factor? **07**

OR

Q.4 (a) Give comparison between indoor substation and outdoor substation. **07**
 (b) Explain full-wave rectifier with centre tap transformer. **07**

Q.5 (a) Explain De-Morgan rules with suitable logic circuit. **07**
 (b) Explain the pin diagram of 8085 micro-processor. **07**

OR

Q.5 (a) What is the basic principle of transformer? What is the difference between Core type and Shell type of transformer? **07**
 (b) What are the different parts of D.C. motor? Explain each part. **07**
