

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC 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**
