

GUJARAT TECHNOLOGICAL UNIVERSITY
PDDC– SEMESTER II– • EXAMINATION –WINTER- 2016

Subject Code: X21101**Date:02/01/2017****Subject Name: Electrical Engineering****Time:02:30 PM to 5:00 PM****Total Marks: 70****Instructions:**

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

- Q.1** (a) List the essential parts of DC Machine. Explain briefly construction and function of each part. **07**
(b) Explain different methods for speed control of D.C. shunt motor **07**
- Q.2** (a) Explain working principle of transformer & Also derive EMF equation of transformer. **07**
(b) Explain open circuit and short circuit tests of 1-phase transformer. What is the importance of these tests? **07**
- Q.3** (a) State the type of three phase induction motor. Explain how rotor rotates when three phase induction motor is connected across three phase supply. **07**
(b) List different type of starters for three phase induction motor. Explain any one in detail. **07**
- Q.4** (a) Explain necessity of starter for D.C. motor. Discuss three point starter with appropriate diagram. **07**
(b) Explain the working principle and applications of synchronous motor. **07**
- Q.5** (a) Explain in brief construction and working principle of Schrage motor **07**
(b) Explain construction and working of d.c. servomotor. **07**
- Q.6** (a) Why 1-phase induction motor is not self-starting? How it is made self-start? **07**
(b) Explain the operating principle and construction of a shaded pole single phase induction motor. **07**
- Q.7** (a) Explain construction and working of stepper motor. **07**
(b) Explain construction and working of universal motor. **07**
