

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER-II • EXAMINATION – WINTER 2013

Subject Code: X21101

Date: 20-12-2013

Subject Name: Electrical Engineering

Time: 02.30 pm - 05.00 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 DC servomotor construction and working. [7]

Q.1 (B) Explain construction and working of VR motor. [7]

Q.2 (A) Explain specifications of stepper motor and its applications in detail. [7]

Q.2 (B) Derive the equation of torque for the Induction Motor. [7]

OR

Q.2 (B) Enlist various measurement methods for slip and explain any one in detail. [7]

Q.3 (A) Explain the no load and load characteristics of DC Generator. [7]

Q.3 (B) Classify the DC generator and explain construction of it. [7]

OR

Q.3 (A) Explain speed torque characteristics of all types of DC Motors. [7]

Q.3 (B) What are the methods of starting of DC Motor? Explain any one in detail. [7]

Q.4 (A) Explain the construction and working principle of 1-ph Transformer. [7]

Q.4 (B) Classify the transformer with respect to construction. Explain any one in detail. [7]

OR

Q.4 (A) Explain OC & SC Test on the 1-ph Transformer. [7]

Q.4 (B) Derive the condition for the maximum efficiency of the Transformer. [7]

Q.5 (A) Explain the Capacitor start capacitor run 1-ph induction motor in detail. [7]

Q.5 (B) How is Universal motor constructed? [7]

OR

Q.5 (A) Explain the Voltage regulation of synchronous machines. [7]

Q.5 (B) Explain the phasor diagram for the synchronous motor with constant power and excitation. [7]
