

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER V • EXAMINATION – WINTER - 2012****Subject code: 150802****Date: 16-01-2013****Subject Name: Electrical Machines- II****Time: 02:30 pm to 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 difference between simplex wave winding and simplex wave winding in D.C machine. **07**
(b) What is the armature reaction? What is the effect of armature reaction on performance of D.C.Machine? **07**

- Q.2** (a) Explain the Scott connection with vector diagram for transformer. **07**
(b) Explain Hopkinson Test for D.C.Machine. **07**

OR

- (b) Explain different methods to minimize the armature reaction. **07**

- Q.3** (a) What are different conditions for parallel operation of transformer? If turn ratio and the polarity is not same than what is the effect of its on parallel operation of transformer. **07**
(b) Explain the star/delta and delta/star connection for three phase transformer. **07**

OR

- Q.3** (a) What is mean by tertiary winding? What are the applications of tertiary winding? **07**
(b) Draw the equivalent circuit for induction motor. **07**

- Q.4** (a) What are the advantages of double cage induction motor on squirrel cage induction motor? Explain the construction of double cage induction motor. **07**
(b) What is the procedure to draw the circle diagram for induction motor? **07**

OR

- Q.4** (a) How can you perform blocked rotor and open circuit test on induction motor? Which parameter can we obtain from this data? **07**
(b) Explain double field revolving theory for single phase induction motor. **07**

- Q.5** (a) Explain capacitor start and capacitor run single phase induction motor. **07**
(b) Explain the effect of over excitation and under excitation on power factor on synchronous motor. **07**

OR

- Q.5** (a) Explain the working and construction of Permanent Magnet Brushless D.C.Machine. **07**
(b) Explain different method of speed control of induction motor. **07**
