

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VIII • EXAMINATION – SUMMER 2014

Subject Code: 180901**Date: 05-06-2014****Subject Name: Commissioning of Electrical Equipments****Time: 10:30 am TO 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 procedure for high voltage testing on electrical equipments. **07**
 (b) Explain purposes for performing No-load and Blocked rotor tests on 3- ϕ induction motor. **07**

- Q.2** (a) State the properties of good transformer oil? Explain BDV test on transformer oil. **07**
 (b) List out the commissioning tests on power transformer. Explain the Voltage ratio test with the help of circuit diagram. **07**

OR

- (b) Explain drying out procedure of a 3- ϕ induction motor. **07**

- Q.3** (a) For the following conditions explain in detail troubles, causes and its remedies for 3- ϕ squirrel cage induction motor. **07**
 i) Motor fails to start ii) Motor runs at $1/7^{\text{th}}$ synchronous speed.
 iii) Motor heats up
 (b) What is earth resistance? Explain how earth resistance in substation is measured? **07**

OR

- Q.3** (a) State importance of contact resistance of an isolator. Explain contact resistance measurement for an isolator. **07**
 (b) Explain charging current making and breaking tests on an isolator. **07**

- Q.4** (a) State importance of polarity test on CTs. Explain polarity test for CT with circuit diagram. **07**
 (b) How bar-to-bar test is performed on DC machine? State importance of this test. **07**

OR

- Q.4** (a) Explain Mechanical endurance test on circuit breaker. **07**
 (b) State different tests to be performed on DC machine for efficiency determination. **07**
 Which test is best out of all on DC shunt motor? Justify your answer.

- Q.5** (a) State the importance of mechanical balance and magnetic balance in synchronous machine. How mechanical balance is measured? **07**
 (b) Explain Murray loop test for ground fault location in underground cable. **07**

OR

- Q.5** (a) Explain insulation resistance measurement for cable. **07**
 (b) For the following conditions explain in detail troubles, causes and its remedies for synchronous machine. **07**
 i) Synchronous Generator fails to generate power.
 ii) Synchronous Generator generates unbalanced voltages.
 iii) Synchronous Motor fails to start.

