

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER – VIII. EXAMINATION – WINTER 2016

Subject Code: 180901**Date: 22/10/2016****Subject Name: Commissioning of Electrical Equipments****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) Draw DY1 & DY11 type transformer connections & state feasibility of connecting them in parallel with reason **07**
 (b) Explain meaning of insulation resistance. How is it measured for power transformer **07**
- Q.2** (a) What is Earth resistance of earthing system? Explain procedure of earth-resistance measurement of an earth electrode. What are the maximum permissible values? **07**
 (b) What is the working of ELCB? What are the different tests performed on it? **07**
- OR**
- (b) Explain Murray test for earth fault location in underground cable. **07**
- Q.3** (a) Explain the significance of following in performance of electrical equipments. **07**
 1. Interpoles in d.c. m/c 2. Partial discharge test on transformer 3. Insulation co-ordination in sub station
 (b) What is the necessity of drying of electrical equipment? Explain polarization index of 3-phase induction motor. **07**
- OR**
- Q.3** (a) Explain the procedure of high voltage tests on rotating machine **07**
 (b) Explain the purification and filtration process of transformer oil. **07**
- Q.4** (a) What is diff. between system earthing and structure earthing ? Explain with diagram, measurement of earth resistance in substation. **07**
 (b) Explain short circuit testing on circuit breaker with plant layout. **07**
- OR**
- Q.4** (a) State the importance of mechanical balance and magnetic balance in synchronous machine. How mechanical balance is measured? **07**
 (b) Explain the Phase group of Power Transformer with necessary vector and winding diagram. **07**
- Q.5** (a) Explain following test regarding cable 1) High voltage test. 2) Insulation resistance test 3) Conductor resistance test **07**
 (b) Explain Mechanical Endurance and Impulse testing of Circuit breakers. **07**
- OR**
- Q.5** (a) Explain with setup sketch, Impulse testing for power transformer. **07**
 (b) Explain open circuit test & short circuit test on a synchronous machine. **07**
