

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– VIII (New) EXAMINATION – WINTER 2019****Subject Code: 2180901****Date: 29/11/2019****Subject Name: Testing and 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) Why the earthing resistance is kept minimum for safety of human being? What is the effect if earthing resistance is high? **03**
- (b) Explain three point method for measurement of earthing resistance **04**
- (c) Which type of test is conducted on electrical equipment during its manufacturing process? **07**
- Q.2** (a) What are the steps taken while installation of electrical equipment at site? **03**
- (b) Which care must be taken when new transformer is dispatched on site from a factory? **04**
- (c) Explain how the transformer group DY1 and DY11 is to be tested. **07**
- OR**
- (c) Explain step of drying out of big size of transformer. **07**
- Q.3** (a) Why the shaft alignment is required for switch gear installation and motor installation? **03**
- (b) How the winding resistance of transformer is to be measured? **04**
- (c) How the switching impulse test and high voltage test is conducted by transformer? **07**
- OR**
- Q.3** (a) How the ratio test is conducted on transformer? **03**
- (b) How the insulation resistance is measured in transformer? **04**
- (c) Why the tap changer is kept of HV side of transformer? Give your justification? **07**
- Q.4** (a) What are reasons for vibration in induction motor? **03**
- (b) What are the reasons if D.C. motor does not start on giving a rated voltage? **04**
- (c) What are the different methods for drying of rotating machine? **07**
- OR**
- Q.4** (a) How block rotor and open circuit test is conducted on induction motor? Which parameters can we obtained from this test? **03**
- (b) How the temperature rise test is conducted on rotating machine? **04**
- (c) How the PI is measured of rotating machine? What is the significance of it on performance of rotating machine? **07**
- Q.5** (a) Which are the tests conducted on circuit breaker? **03**
- (b) What is the reason if circuit breaker is refused to close if closing signal is given? **04**
- (c) Explain closing and opening mechanism in circuit breaker **07**
- OR**
- Q.5** (a) What is step and touch potential in substation? What is its significance? **03**
- (b) What is the preferred location of lightning arrester in substation? Give your justification. **04**
- (c) Which are different components of sub-station? What are the functions of each component in sub-station? **07**