

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (OLD) EXAMINATION – WINTER 2018****Subject Code: 180801****Date: 19/11/2018****Subject Name: Testing And Installation Of Electrical Equipments And Systems****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 and explain waveform for the following conditions: **07**
(I) outage and Surge (II) Harmonic and Voltage Sag.
- (b)** Explain the seven principles of safety management in electrical plants. **07**
- Q.2 (a)** Explain the procedure and significance of temperature rise test with necessary figure and its co-relation with rated normal current. **07**
- (b)** Describe the second characteristic numeral in the standard designation of cooling system. **07**
- OR**
- (b)** What is the IEEE recommended practice for Monitoring Electric Power Quality? **07**
- Q.3 (a)** Explain the work and Procedures of Hot –line Maintenance. **07**
- (b)** Describe oscillographic tests on electrical equipment. Give example of a typical test record. **07**
- OR**
- Q.3 (a)** State the causes of disturbances in power quality and list the power quality improvement facilities for each variable of electrical power supply? **07**
- (b)** State various types of enclosures used for rotating electrical machines. **07**
- Q.4 (a)** What is drying-out of an electric rotating machine? Why and when is it necessary? **07**
- (b)** Give summary of auxiliary systems in substations and state their functions. **07**
- OR**
- Q.4 (a)** State the conditions for which HVDC Links are preferred? **07**
- (b)** Explain the procedure of design of transmission towers and structures. **07**
- Q.5 (a)** Illustrate the schematic of bipolar 2-terminal HVDC link and define functioning of all parts of it. **07**
- (b)** Explain the main functions of SCADA. **07**
- OR**
- Q.5 (a)** Explain the principle of fiber -optic data transmission. **07**
- (b)** What is the meaning of compensation of reactive power? Why is it necessary? **07**
