

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

**Subject Code: 180801****Date: 21/10/2016****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) What are the power quality disturbances in voltage? Also write its causes and remedies. **07**
- (b) Explain the seven principles of safety management in electrical plants. **07**
- Q.2** (a) What is synchronizing of a synchronous generator with bus-bars? What are the required conditions for instant of synchronizing? **07**
- (b) What is cyclic duration factor? Explain with standard notations. Explain the term MRC, STR and DTR for rotating electrical machines. **07**
- OR**
- (b) State the standard method of designation of cooling of an electrical rotating machine as per IEC recommendations. **07**
- Q.3** (a) List the various tests on conducting path. Briefly Describe the continuity test and its significance. **07**
- (b) Explain the procedure of drying out of electric motor using the (1) Radiating lamp & (2) drying chambers and resistor heaters. **07**
- OR**
- Q.3** (a) Explain the working principle of Megger with necessary figure and procedure of its use. **07**
- (b) Explain the principle of brushless excitation system with necessary block diagram and figure. **07**
- Q.4** (a) State the factors to be considered while making a choice of a particular drive. **07**
- (b) Give summary of auxiliary systems in substations and state their functions. **07**
- OR**
- Q.4** (a) Explain the procedure of dismantling of a large rotating machine dispatched in fully assembled condition. What are the checks after dismantling? **07**
- (b) Explain Methods of Voltage control in power systems. **07**
- Q.5** (a) State the conditions for which HVDC Links are preferred? **07**
- (b) Explain the procedure of design of transmission towers and structures. **07**
- OR**
- 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**

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