

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-VIII (old) - EXAMINATION – SUMMER 2018**

**Subject Code:180801**

**Date:02/05/2018**

**Subject Name:Testing and Installation of Electrical Equipments and Systems**

**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) What is electrical shock? Distinguish between primary shock and secondary shock. **07**
- (b) Explain the seven principles of safety management in electrical plants. **07**
- Q.2** (a) Explain the working principle of megger with necessary figure and Procedure of its use. **07**
- (b) Describe the test set-up and test procedure of switching (Lightning) impulse test with necessary figure. **07**
- OR**
- (b) Write IEEE recommended practice for monitoring Electric Power Quality. **07**
- Q.3** (a) Write any seven causes of disturbance in power quality examine their effect on power quality and write remedies for each disturbance of electric power supply. **07**
- (b) Describe the second characteristic numeral in the standard designation of cooling system. **07**
- OR**
- Q.3** (a) State the checks to be carried out at site prior to commissioning of electric motors. **07**
- (b) What is synchronizing of a synchronous generator with busbars? What are the required conditions for instant of synchronizing? **07**
- Q.4** (a) Describe the connections between Generator, Main Transformer and Auxiliary Transformer for unit connection in a typical power plant. **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.4** (a) State the merits of Back to Back HVDC coupling Station. Describe a typical Layout of Back to Back HVDC Coupling Station. **07**
- (b) What is load shedding? Why is it necessary? How is it carried out and where? **07**
- Q.5** (a) Explain the sequence of tripping the main circuit breaker, unit auxiliary circuit breaker and field circuit breaker in the generating unit scheme. **07**
- (b) Define briefly the following terms in power cable: **07**
1. operating capacitance
  2. b) charging currents
  3. reactive power
  4. leakage currents
  5. continuous current carrying capacity
  6. inductance
  7. effective d.c. resistance.
- OR**
- Q.5** (a) Explain the principle and function of VT and Capacitor Voltage Transformer (CVT). **07**
- (b) What is the difference between shunt compensation and series compensation? **07**

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