| Seat No.: | Enrolment No. |
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## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-VIII EXAMINATION - SUMMER 2016** 

| Subject Code:180801 Date:10/05 |             | 5/2016   |          |
|--------------------------------|-------------|--|----------|
| _                              | :10         | Name:Testing and Installation of Electrical Equipments and Systems 30 AM to 01:00 PM Total Mar   | ks: 70   |
|                                | 1.<br>2.    | Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.                                   |          |
| Q.1                            | (a)         | Describe how a person gets electric shock and write the causes behind severity of shock.   | 07       |
|                                | (b)         | •  | 07       |
| Q.2                            | (a)<br>(b)  | Describe the test set-up and test procedure of lightning impulse test with necessary figure.   | 07<br>07 |
|                                | <b>(b</b> ) | OR  Explain the massedum of investigations of never quality  | 07       |
|                                | <b>(b)</b>  | Explain the procedure of investigations of power quality.  | 07       |
| Q.3                            | (a)         | State the method of designation of cooling of an electrical rotating machine as per IEC recommendations.   | 07       |
|                                | <b>(b)</b>  | Describe the second characteristic numeral in the standard designation of cooling system.  | 07       |
| 0.0                            |             | OR   | 0=       |
| Q.3                            | (a)         | Explain the procedure of dismantling of a large rotating machine dispatched in fully assembled condition. What are the checks after dismantling?   | 07       |
|                                | <b>(b)</b>  | •  | 07       |
| Q.4                            | (a)         | Explain how to identify the problems in individual components of motor.  | 07       |
|                                | <b>(b)</b>  |  | 07       |
| Q.4                            | (a)         | Prepare the sequence of tripping the main circuit-breaker, unit auxiliary circuit-breaker and field circuit breaker in the generating unit scheme. | 07       |
|                                | <b>(b)</b>  |  | 07       |

| Q.5     | (a)        | Illustrate the schematic of bipolar 2-terminal HVDC link and define       | 07 |
|---------|------------|---|----|
|         |            | functioning of all parts of its.  |    |
|         | <b>(b)</b> | Explain the procedure of design of tower and structures.                  | 07 |
|         |            | OR  |    |
| Q.5 (a) | (a)        | Define briefly the following terms in power cable:                        | 07 |
|         |            | a) operating capacitance b) charging currents c) reactive power d)        |    |
|         |            | leakage currents e) continuous current carrying capacity f) inductance g) |    |
|         |            | effective d.c. resistance.  |    |
|         | <b>(b)</b> | Explain the construction of gas insulated substation (GIS). And state its | 07 |
|         |            | merits and demerits.  |    |
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