

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (Old) EXAMINATION – WINTER 2019****Subject Code: 180901****Date: 27/11/2019****Subject Name: 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) Explain Breakdown voltage (BDV) test of Transformer oil. **04**  
State properties of Transformer oil. **03**  
(b) Explain working of Lightning Arrester. **02**  
Discuss Testing & Commissioning of Lightning Arrester. **05**
- Q.2** (a) Discuss in detail Murray loop test for locating cable faults. **07**  
(b) Explain in brief power frequency voltage withstand test, impulse voltage withstand test & vibration test on bus bar. **07**
- OR**
- (b) Explain Mechanical endurance and impulse testing of Circuit breakers. **07**
- Q.3** (a) What is Earthing? Describe factor affecting Earth Resistance. **07**  
(b) Explain Hopkinson's Test of D.C. Machine. **07**
- OR**
- Q.3** (a) State importance voltage drop test. **07**  
How voltage drop test is performed on DC machine?  
(b) Explain measurement of DC and AC Resistance of Armature and Field winding of synchronous machines. **07**
- Q.4** (a) Explain Vibration and Noise measurement of synchronous machines. **07**  
(b) List methods of drying out of electrical equipment. **02**  
Explain any one method in detail. **05**
- OR**
- Q.4** (a) For the following conditions explain in detail troubles, causes and its remedies **07**  
for 3- $\phi$  squirrel cage induction motor.  
i) Motor fails to start ii) Motor runs at 1/7th synchronous speed. iii) Motor heats up.  
(b) Define: 'slip' for an Induction motor. Describe in detail method of measurement of slip of an induction Motor. **07**
- Q.5** (a) Write the significance of Polarization Index Number. **02**  
Explain drying out procedure of Power Transformer. **05**  
(b) Discuss causes of troubles and failure of Transformers and their remedy. **07**
- OR**
- Q.5** (a) Differentiate between type test and routine test. **03**  
Explain any two routine test of Power transformer with circuit diagram. **04**  
(b) Explain the significance of partial discharge measurement and tan delta test in case of transformer? **07**

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