

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2180901****Date: 29/11/2018****Subject Name: Testing and 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.

		MARKS
<b>Q.1</b>	(a) What is testing of electrical equipments? Classify different tests.	<b>03</b>
	(b) What is polarization index? State its importance.	<b>04</b>
	(c) What is difference between equipment earthing and system grounding? Explain earthing procedure for substation.	<b>07</b>
<b>Q.2</b>	(a) State the importance of polarity test for transformer.	<b>03</b>
	(b) Explain insulation resistance measurement for power transformer.	<b>04</b>
	(c) Explain any two troubles in three phase induction motor with their causes and remedies.	<b>07</b>
	<b>OR</b>	
	(c) Explain Hopkinson's test with its circuit diagram.	<b>07</b>
<b>Q.3</b>	(a) What are clearance and creepage?	<b>03</b>
	(b) Explain any one method for alignment of rotating electrical machine.	<b>04</b>
	(c) Explain earth resistance measurement with usual connection diagram.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain slip measurement using galvanometer.	<b>03</b>
	(b) Explain power frequency HV test on three phase induction motor.	<b>04</b>
	(c) Explain drying out procedure for power transformer. Also show the insulation resistance variation during drying out with respect to time.	<b>07</b>
<b>Q.4</b>	(a) Explain the polarity measurement of current transformer.	<b>03</b>
	(b) Can Dy11 connected in parallel with Dy11? Justify your answer.	<b>04</b>
	(c) Explain routine maintenance procedure for a power transformer.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) What is technical report? Show any sample technical report in sheet form.	<b>03</b>
	(b) Enlist the different protection schemes for synchronous generator.	<b>04</b>
	(c) Explain the commissioning procedure of synchronous generator.	<b>07</b>
<b>Q.5</b>	(a) Enlist the different types of conductor used for transmission line.	<b>03</b>
	(b) Write short note on gas insulated substation.	<b>04</b>
	(c) What is tower footing resistance? Explain any one method to reduce the value of tower footing resistance.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Give difference between isolator and circuit breaker.	<b>03</b>
	(b) Explain mechanical endurance test for switchgear.	<b>04</b>
	(c) Explain any two routine tests to be performed on circuit breaker.	<b>07</b>

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