

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII(NEW) EXAMINATION – SUMMER 2019

Subject Code:2180901

Date:17/05/2019

Subject Name:Testing and Commissioning of Electrical Equipments

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.

		MARKS
Q.1	(a) List the factor affecting earth resistance.	03
	(b) List the methods of slip measurement in induction motor. Briefly explain slip measurement by rotor frequency.	04
	(c) For below listed troubles in power transformer, state its causes and remedies: 1) Internal short circuit 2) Overheating 3) Rapid deterioration of oil	07
Q.2	(a) State the purpose of the following tests: Type tests, Routine tests, Special tests, Development tests	03
	(b) Before installation of the machine what general checkups needs to be performed?	04
	(c) List various methods of neutral grounding. Explain in detail the method of solid grounding with its merits and demerits.	07
	OR	
	(c) List various methods for earth resistance measurement. Explain fall of potential method for measurement of earth resistance.	07
Q.3	(a) What is polarization index? What is its significance?	03
	(b) Explain the drying out procedure of power transformer with necessary graph.	04
	(c) State the purpose of high voltage testing of power transformer. Describe test set up for impulse testing of power transformer.	07
	OR	
Q.3	(a) Explain the polarity of windings.	03
	(b) What are the causes of low value of insulation resistance in the power transformer? How insulation resistance can be brought to required level?	04
	(c) Draw DY1 & DY11 type transformer connections & state feasibility of connecting them in parallel with reason.	07
Q.4	(a) Explain the cause of noise produced by the rotating machine.	03
	(b) For the following troubles with slip ring induction motor, state its possible causes: 1) Motor runs slow 2) Motor fails to start	04
	(c) Explain the no load test and blocked rotor test of an induction motor. What data such test provides?	07
	OR	
Q.4	(a) Enlist different tests to be performed on busbar.	03
	(b) Explain any one test to be performed on three phase synchronous machine to find out its synchronous impedance.	04
	(c) What is degree of protection? How it is designated? What is IP and IC code?	07

- Q.5** (a) Define the making and breaking rating of the circuit breaker. **03**
(b) Explain mechanical endurance test on circuit breaker. **04**
(c) Explain the working of ELCB? What are the different tests performed on it? **07**

OR

- Q.5** (a) Discuss the need for gas insulated substation. **03**
(b) Discuss different cooling system of rotating electrical machines in brief. **04**
(c) Explain Murray loop test for ground fault location in underground cable. **07**

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