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17EE752

Seventh Semester B.E. Degree Examination, July/August 2022
Testing & Commissioning of Power System Apparatus

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. List the tools and equipments required for transformer installation work. (08 Marks)
- b. List the method of artificial respiration. (04 Marks)
- c. Describe the transformer's terminal marking plates. Indicate tapping and connectors. (08 Marks)

OR

- 2 a. Mention the physical and electrical properties of insulating oil. With sketch, explain the procedure of filling oil in transformer tank. (10 Marks)
- b. Explain the test set up for impulse testing of power transformer. (10 Marks)

Module-2

- 3 a. List the general specifications of synchronous machines. Explain how synchronous machines will be dried out. (12 Marks)
- b. With block diagram, explain excitation system for synchronous machine. (08 Marks)

OR

- 4 a. What is the objective of performance tests? Explain open circuit test and short circuit ratio tests performed on synchronous machine. (10 Marks)
- b. Explain how negative phase sequence test is conducted on synchronous machine? Mention the modes of temperature measurements of various parts of synchronous machine. (10 Marks)

Module-3

- 5 a. List out the specifications of synchronous machines. Mention the various steps involved in installation of an alternator. (10 Marks)
- b. With block diagram, explain the functioning of static excitation system in synchronous machine. Explain the purpose of cooling in synchronous machines. (10 Marks)

OR

- 6 a. Define short circuit ratio of a synchronous machine. What is its significance? Explain the procedure finding the SCR of a synchronous machine. (10 Marks)
- b. Explain how drying out of synchronous machines are carried out. Explain the open circuit test of a synchronous machine. (10 Marks)

Module-4

- 7 a. Explain the Radar method of locating cable fault. (10 Marks)
- b. State the factors to be considered while selecting a cable. State the various classifications of cable boxes / cable joints / cable terminations. (10 Marks)

OR

- 8 a. Describe the steps to be taken after occurrence of fault in underground High Voltage Cable. (10 Marks)
- b. List the various jointing techniques used in UG cables. What precautions are necessary in cable jointing? (10 Marks)

Module-5

- 9 a. Give the specifications of High Voltage circuit breakers? Explain the tests to be carried out at site on circuit breakers before commissioning. (10 Marks)
- b. Enumerate the ratings of low voltage circuit breakers. List the tests to be carried out on low voltage circuit breakers. (10 Marks)

OR

- 10 a. Bring out the possible trouble causes and corrective actions for outdoor circuit breakers. (10 Marks)
- b. Explain methods used to measure earth resistance. List the IE rules for domestic installation. (10 Marks)

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