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10EE756

Seventh Semester B.E. Degree Examination, Aug./Sept.2020
Testing and Commissioning of Electrical Equipment

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO full questions from each part.**PART - A**

- 1 a. Explain the various aspects to be considered in the selection of site and location of power transformer. (06 Marks)
b. What are the expected properties of good insulating oil used in transformers? (04 Marks)
c. Explain the various accessories and fitments fitted on power transformer. (10 Marks)
- 2 a. What is drying out of transformer? Explain briefly the different methods of drying out of transformer. (05 Marks)
b. Describe the test setup for impulse testing of power transformers. (10 Marks)
c. Explain the recommended maintenance schedule for transformer of capacities less than 1000KVA. (05 Marks)
- 3 a. Explain the procedure for dismantling of a large rotating machine despatched in fully assembled condition. What are the checks after dismantling? (14 Marks)
b. Mention the specifications of synchronous machine. (06 Marks)
- 4 a. Explain the sudden 3 phase short circuit test on a 3 phase synchronous generator and also calculate x''_d , x'_d and x_d from this test. (10 Marks)
b. State and explain the various abnormal conditions in synchronous generators and their effect on the generator, state the respective protection. (10 Marks)

PART - B

- 5 a. What are the standard specifications of Induction motor? (04 Marks)
b. State the various types of enclosures for rotating electrical machines. (06 Marks)
c. Explain the procedure of drying out an electrical machine by
 - i) Drying chambers and resistance heaters
 - ii) Radiating lamps
 - iii) By circulating short circuit currents.(10 Marks)
- 6 a. Explain the methods of measuring slip of an Induction motor. (08 Marks)
b. Explain different duties of Induction motor. (04 Marks)
c. State the various steps in installation of a large IM received in dismantled condition. (08 Marks)
- 7 a. Explain the various protective devices and their functions used in electrical system. (04 Marks)
b. Explain the various steps in maintenance of circuit breakers. (10 Marks)
c. State and explain the various tests performed on high voltage ac circuit breaker. (06 Marks)
- 8 Write short notes on the following:
 - a. Balancing of Induction motor
 - b. Polarity testing of transformer
 - c. Various causes for vibration of Induction motor
 - d. Short Circuit Ratio (SCR) of a synchronous machine and its significance. (20 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg. 42+8 = 50, will be treated as malpractice.

