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**Seventh Semester B.E. Degree Examination, Feb./Mar. 2022**  
**Testing and Commissioning of Electrical Equipment**

Time: 3 hrs.

Max. Marks: 100

**Note:** Answer any FIVE full questions, selecting atleast TWO questions from each part.

**PART – A**

- 1 a. Describe or explain the circuit work associated with transformer foundation. (07 Marks)  
b. Explain the steps in drying out of a power transformer. (06 Marks)  
c. State the purpose of conducting high voltage test on power transformer. State which high voltage test are performed on power transformer as type test and as routine test. (07 Marks)
- 2 a. Name and explain the various accessories on a transformer. (06 Marks)  
b. Describe the function of conventional conservator and Silica-jet breather. (06 Marks)  
c. Describe the test set up for impulse testing of power transformer. (08 Marks)
- 3 a. Explain the purpose of drying out of synchronous machine and procedure of drying out. What should the value of insulation resistance and polarization index of synchronous machine? (10 Marks)  
b. Explain the function of excitation system and principle of brushless excitation system. (10 Marks)
- 4 a. Enumerate the various steps of installation of a synchronous machine. (10 Marks)  
b. Explain the sudden 3 –  $\phi$  short circuit test on 3 –  $\phi$  generator and calculate  $x_d$ ,  $x'_d$  and  $x''_d$  from 3 –  $\phi$  short circuit test. (10 Marks)

**PART – B**

- 5 a. State the various steps in installation of a large rotating machine received in dismantled condition. (10 Marks)  
b. State the various categories of test on 3 –  $\phi$  induction motor. (10 Marks)
- 6 a. What is the significance of preventive maintenance and servicing of motor? Give the guidelines and the activities of preventive maintenance. (10 Marks)  
b. Explain the requirement of civil engineering works, foundation work for medium and large induction motor. (10 Marks)
- 7 a. What are the methods of measuring slip of an Induction motor? (10 Marks)  
b. Write briefly on “Shimming work and shaft alignment during installation of induction motor”. (10 Marks)
- 8 a. State and explain the various rating of high voltage circuit breaker. (10 Marks)  
b. Explain the layout of simple short circuit testing and procedure of conducting short circuit test. (10 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.