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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Seventh Semester, B.E. - Electrical and Electronics Engineering

Semester End Examination; Jan. / Feb. - 2021

Testing and Commissioning of Electrical Equipments

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

- 1 a. List the commissioning tests to be carried out on transformers and explain them. 10
 b. Explain the different accessories and fitments of a power transformer. 10
 2 a. What are the different methods of cooling in transformers? Explain them. 10
 b. Explain O.C. and S.C test with respect to transformers. 10

UNIT - II

- 3 a. Explain the following test with respect to synchronous machine; 10
 i) Vibration test ii) Over speed test on motors
 b. What are the various steps in installation of an alternator? 10
 4 a. Explain the sudden 3 ϕ S.C. test on a 3 ϕ generator. How to calculate X'_d and X''_d of X_s from 10
 the sudden 3 ϕ S.C. test.
 b. State and explain the various abnormal conditions in synchronous generator and their effects. 10

UNIT - III

- 5 a. Describe the techniques used in drying of windings in induction motors. 10
 b. Explain the no load test and locked-rotor test on 3 ϕ induction motor. 10
 6 a. What are the possible troubles, causes and remedies in LV induction motors? 10
 b. Explain the following tests on induction motors; 10
 i) High voltage test ii) Temperature rise test

UNIT - IV

- 7 a. Discuss briefly the high voltage maintenance of circuit breakers. 10
 b. What are the factors to be considered while selecting circuit breakers? 10
 8 a. Discuss briefly the testing of current transformers. 10
 b. Discuss briefly the details to be supplied while processing current transformers. 10

UNIT - V

- 9 a. Explain the safety management interface with O and M. 10
 b. Write the principles of safety management. 10
 10 a. Write a note on; 10
 i) Work permit system ii) Safety procedure in electric plant
 b. List out the recommended safety precautions against electric shock in small building shops 10
 and L.V. stations.