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**NEW SCHEME****Sixth Semester B.E. Degree Examination, Dec. 06 / Jan. 07****Electrical and Electronics Engineering****Testing and Commissioning of Electric Equipment**

Time: 3 hrs.]

[Max. Marks:100

*Note: 1. Answer any FIVE full questions.*

- 1 a. What are the important ratings and specifications of oil filled power transformers? (10 Marks)
- b. What is temperature classification of insulating materials? Explain with examples. (10 Marks)
- 2 a. What are the different methods of drying the transformers at site? Explain. (10 Marks)
- b. What is Polarization Index? Draw a dry out curve for transformer. Explain the procedure. (10 Marks)
- 3 a. Explain the impulse voltage withstand test and induced over voltage test conducted on transformer. (10 Marks)
- b. What are the probable gases that are collected in Buchholz relay, when there is a severe internal fault in transformer, how it is interpreted? (10 Marks)
- 4 a. Explain the following as applicable to an induction motor:  
i) Duty ii) Rating iii) Cyclic duration factor iv) Pull up torque  
v) Temperature equilibrium. (10 Marks)
- b. What are the different "Duties" of induction motor? Explain with sketch the salient features of  $S_e$  Duty Motor. (10 Marks)
- 5 a. What are the "Type" and "Routine" tests conducted on induction motor? Explain briefly. (10 Marks)
- b. Explain temperature rise test and high voltage test conducted on induction motor as per relevant B.I.S. specifications. (10 Marks)
- 6 a. What are the different ratings of high voltage circuit breakers? What are the different types of high voltage circuit breakers that are in use with reference to arc quenching medium? Explain their merits. (10 Marks)
- b. While installing a circuit breaker how the following are provided:  
i) Foundation ii) Main connection iii) Auxilary connections iv) Power supplies. (10 Marks)
- 7 a. How synchronous motors are started? Explain two different methods. (10 Marks)
- b. What are the methods of measuring stator winding temperature of rotating electric machines? Explain. (10 Marks)
- 8 Write brief notes on the following:  
a. Mineral insulating oil.  
b. Winding insulation resistance measurements.  
c. Mechanical maintenance of rotating electric machines.  
d. Earthing systems. (20 Marks)

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