

# Question Bank (I-Scheme)

Name of course: Maintenance of Electrical Equipment

Unit Test: II

Subject code: 22625(MEE)

Semester: VI

Program: EE

## Chapter 4: Testing and Trouble shooting of Transformers (20Marks)

2 Marks

1. List any four properties of transformer oil.
2. Which electrical tests are carried out before commissioning of transformer?
3. List any eight contamination agents of the transformer oil.
4. List any four internal causes for abnormal operation of electrical equipment's.
5. List routine tests to be conducted on 3 phase transformer as per IS-2026-2011.

4 Marks

1. Prepare troubleshooting chart for transformer as per IS- 10028-1981 (4 trouble) and Induction motor (4 troubles).
2. Explain How S.C test is performed on single phase transformer
3. Prepare the troubleshooting chart (probable reasons and remedies) for three phase transformer for the following symptoms i) no output voltage, ii) transformer oil overheats
4. A 1-4 transformer of 100 KVA, 11000/2200 volts, 50 Hz, gave the following results:1) O.C. test :  $V_o = 2200$  V,  $I_o = 1.59$  A,  $W_o = 980$  W - L.V. side 2) S.C. test:  $V_{sc} = 580$  V,  $I_{sc} = 9.1$  A,  $W_{sc} = 1100$  W H.V. side (with L.V. shorted) Calculate the efficiency and regulation of transformer at full load 0.8 p. f. (lagging).
5. Explain the open delta (delta-delta) test on transformer.
6. Explain the trouble shooting chart of 3 transformers.
7. Draw the experimental set up of the Sumpner's test on 1-Ph transformer. Also write its procedure.
8. List the mechanical, magnetic and electrical faults in the electrical equipments.
9. Explain routine preventive maintenance of transformer.
10. Explain working of phasing out test on a 3 phase transformer.

## **Chapter 5: Maintenance of Electrical machine insulation (10Marks)**

2 Marks

1. List the different methods of drying of insulation.
2. Which types of precautions to be taken while working on electrical installation?
3. State and explain the factors affecting the life of insulating material.
4. State the classification of insulating material as per IS.
5. Draw and explain vacuum impregnation method of varnishing.

4 Marks

1. Explain any four method of cleaning of insulation of electrical machines.
2. State and explain the properties of transformer oil.
3. Differentiate between installation earthing and system earthing.
4. Classify the insulating materials as per operating temperature. Give two examples of each type.
5. Describe any four methods used to reduce earth resistance.
6. State the method of measurement of insulation resistance and explain any one method.
7. List out and explain any one test to be carried on transformer oil.
8. Explain the properties of Insulating Materials.