

# 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 the 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.
6. List out basic requirements of foundation.

4 Marks

1. Explain How O.C. and S.C test is performed on single phase transformer with neat diagram.
2. Prepare the troubleshooting chart (probable reasons and remedies) for three phase transformer.
3. A 1-phase transformer of 100 KVA, 11000/2200 volts, 50 Hz, gave the following results:  
1) O.C. test:  $V_o=2200V$ ,  $I_o=1.59A$ ,  $W_o=980W$  - L.V.side  
2) S.C. test:  $V_{sc}=580V$ ,  $I_{sc}=9.1A$ ,  $W_{sc}=1100W$  H.V. side (with L.V. shorted)  
Calculate the efficiency and regulation of transformer at full load 0.8 p. f. (lagging).
4. Explain the open delta (delta-delta) test on transformer.
5. Draw the experimental set up of the Sumpner's test on 1-Ph transformer. Also write its procedure.
6. List the mechanical, magnetic and electrical faults in the Transformer.
7. Explain routine preventive maintenance of transformer.
8. Draw and Explain working of phasing out test on a 3 phase transformer.
9. Describe the procedure for conducting Polarity test of a single phase transformer with the necessary circuit diagram.

## 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. Give different factors affecting the life of insulating materials.
4. State the classification of insulating material as per IS.
5. Draw the setup for impulse test on a Power transformer.

#### 4 Marks

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