

M. Tech.-III (Electrical -Power System) (CBCS – 2015 Course) :
SUMMER - 2019
SUBJECT: SELF STUDY PAPER – I CONDITION MONITORING OF ELECTRICAL EQUIPMENT

Day : Wednesday
Date : 22/05/2019

Time: 11.00 AM TO 02.00 PM
Max. Marks: 60.

S-2019-3548

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate full marks.
- 3) Draw neat labeled diagrams **WHEREVER** necessary.

Q.1 Explain condition monitoring of **(10)**
i) bearing ii) lubricant

OR

Q.1 Explain **(10)**
i) thermal imaging techniques ii) Infrared thermography

Q.2 Explain **(10)**
i) surface resistivity
ii) polarization index

OR

Q.2 State significance of tan delta .Explain how tan delta can be measured for the **(10)**
insulating materials.

Q.3 Describe condition monitoring of bushings and on load tap changers in transformer **(10)**

OR

Q.3 Explain how dissolved gas analysis is carried out in case of transformer oil. **(10)**

Q.4 Describe the use of thermography for detection of condition of induction motor with **(10)**
case study. Provide remedial action based on analysis.

OR

Q.4 What is the effect of variable frequency drive on the performance of induction **(10)**
motor?

Q.5 Describe online condition monitoring techniques for insulation testing. **(10)**

OR

Q.5 Describe with neat diagram the test to determine location of fault in cable. Write **(10)**
down mathematical expression.

Q.6 What are the various abnormal conditions in alternator? Prepare tabular chart **(10)**
showing faults, causes and remedies.

OR

Q.6 Draw circuit diagram to determine stator interturn fault detection and explain **(10)**