

**M. TECH.-III (ELECTRICAL -POWER SYSTEM) (CBCS – 2015
COURSE) : WINTER - 2017**

**SUBJECT : SELF STUDY PAPER – I : CONDITION MONITORING OF ELECTRICAL
EQUIPMENTS**

Day : **Thursday**
Date : **25/01/2018**

W-2017-2951

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

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Answers to both the sections should be written in **SEPARATE** answer book.
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SECTION – I

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

OR

Explain vibration analysis of different types of machinery.

Q.2 What are partial discharges? Explain how partial discharges can be detected **(10)**
by using straight detectors.

OR

Explain: **i)** Volume resistivity **ii)** Polarization index.

Q.3 What is the significance of frequency response analysis for condition **(10)**
monitoring of transformer.

OR

What are the different tests carried on transformer oil as per IS. Explain in
detail.

SECTION – II

Q.4 What are the causes of broken rotor bars and how can it be detected by **(10)**
MCSA describe with mathematical expression and case history.

OR

Describe the diagnostic testing for condition monitoring of induction motor.
How to detect severity level of damage by this test?

Q.5 Describe the ageing and thermal degradation in cables and tests to detect **(10)**
them.

OR

Describe maintenance of power electronic converters in detail.

Q.6 Prepare a tabular chart of alternator condition monitoring indicating types of **(10)**
faults, causes & remedies.

OR

How hybrid grounding is useful for switching transient analysis of alternator.
Describe with mathematical expressions.

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