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B.Tech. (Semester - 3ʳᵈ)
ELECTRONIC MEASUREMENT AND INSTRUMENTATION
(NEW) (EC - 203)

Time : 03 Hours   **Maximum Marks : 60**

Instruction to Candidates:

1) Section - A is **compulsory**.

2) Attempt any **Four** questions from Section - B.

3) Attempt any **Two** questions from Section - C.

Section - A

(10 x 2 = 20)

Q1)

a) What is harmonic distortion?

b) Where is LCR meter used?

c) What is a heat sink? How does it work?

d) What is transformer coupling?

e) Why the secondary windings of LVDT are connected in series opposition?

f) What is the basic principle of strain gauge based measurements?

g) Why secondary of CT is never kept open?

h) What is the difference between X-Y and X-t recorder?

i) Write down the difference between direct recording and indirect recording.

j) What is phase angle error?

Section - B

Q2) Describe the design and constructional features used in Potential Transformer for reduction of Ratio and phase angle errors.

Q3) Explain the measurement of displacement using LVDT.

Q4) What do you understand by piezoelectric effect? How it can be used to measure pressure?

Q5) Explain the difference between VTVM and digital voltmeter.

Q6) What is thermal runaway? Discuss FET as a VVR.

Section - C

(2 x 10 = 20)

Q7) What is wideband amplifier? Classify amplifiers and discuss them.

Q8) Explain the construction and working of a Nixie-tube.

Q9) Write short note on the following:
   (a) Thermocouple.
   (b) Maxwell's bridge.

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