

Roll No.

OLE-24236

**B. Tech. 5th Sem. (ECE)
Examination – April, 2021**

**ELECTRONIC MEASUREMENT AND
INSTRUMENTATION**

Paper : EE-303-F

Time : Three hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* question in all including Q. No. 1 which is *compulsory*. Select *one* question from each Unit. All questions carry equal marks.

1. (a) Define CRO. Why this device is required ?
- (b) List out the Electronic instruments.
- (c) Why signal gets distorted o/p after amplification ?
- (d) What is AC signal conditioning system ? $5 \times 4 = 20$

UNIT – I

2. Draw and explain the block diagram of CRO with clearly indicated by circuit diagram. 20

3. Explain the construction and working of sampling storage oscilloscope. 20

UNIT – II

4. (a) Explain why PMMC instruments are the mostly used instruments. Discuss their advantages and disadvantages. 10
- (b) The self capacitance of a coil is measured by using Q-meter. The first measurement is taken at $f_1 = 2\text{MHz}$ and $C_1 = 100\text{pF}$. The second measurement at $f_2 = 6\text{MHz}$ and $C_2 = 220\text{pF}$. Find the distributed capacitance. Also calculate the value of L. 10
5. Explain the various methods of RF measurements. 20

UNIT – III

6. Write short notes on : 10, 10
- (a) Harmonic analyser
- (b) Spectrum analyser
7. Draw and explain the block diagram of function generator. 20

UNIT – IV

8. (a) Explain the LVDT with its characteristics. 10
- (b) Explain basic principle operation of capacitive transducer. Also explain its advantages and disadvantages. 10
9. Draw the block diagram of an ac signal conditioning system. Explain function of each block. 20
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