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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
III B.Tech II Semester Supplementary Examinations, April 2023
Electronic Measurements & Instruments
(ECE)

Roll No										

Time: 3 hours   **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions,
Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1). a	What is the difference between accuracy and precision of measurement?	**[2M]**
b	Define sensitivity and resolution.	**[3M]**
c	State the principle of heterodyne wave analyser.	**[2M]**
d	State the principle of basic sine wave generator.	**[3M]**
e	Mention the standard specifications of a simple CRO.	**[2M]**
f	Differentiate between dual beam and dual trace CRO.	**[3M]**
g	Define sensor and transducers.	**[2M]**
h	What is the basic principle involved in piezoelectric transducers?	**[3M]**
i	What is a bridge? What is the importance of a bridge?	**[2M]**
j	List the various instruments used for measuring the flow.	**[3M]**

PART-B (50 MARKS)
SECTION-I

2	Explain the construction of multi-range voltmeter & Range extension DC voltmeter..	**[10M]**

OR

3	With neat sketch explain thermocouple type RF ammeter.	**[10M]**

SECTION-II

4	With a neat diagram discuss the operation of a pulse generator.	**[10M]**

OR

5	Explain the working of a standard sweep generator with diagram.	**[10M]**

SECTION-III

6	Draw the block diagram of a general-purpose oscilloscope (CRO) and explain function of each block.	**[10M]**

OR

7	Explain with a diagram how phase and freqquency can be measured using a Lissajous method.	**[10M]**

SECTION-IV

8	With a neat sketch explain the operation of LVDT. What are the advantages & disadvantages?	**[10M]**

<div align="center">OR</div>

9   With a neat sketch, explain the operation of piezo-electric transducers in detail.   **[10M]**

<div align="center">**SECTION-V**</div>

10   Describe the operation of the Wheatstone bridge & derive the expression for current when the bridge is unbalanced.   **[10M]**

<div align="center">OR</div>

11   Explain the procedure for measuring the humidity and Moisture?   **[10M]**

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