Course Code: **23EC5D03**

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

(AUTONOMOUS)

III-B.TechI-Semester Regular Examinations (BR23), NOV — 2025-26

ELECTRONIC MEASUREMENTS AND INSTRUMENTATION (ECE)

ECE/4

Time: 3 hours Max. Marks: 70

Question Paper consists of Part-A and Part-B
*Answer **ALL** the question in **Part-AandPart-B***

PART–A (10X2 = 20M)

		Marks	CO	BL
1. a)	What is the difference between Accuracy and Precision?	(2M)	CO 1	2
b)	How a PMMC meter can be used as Voltmeters and Ammeters?	(2M)	CO 1	2
c)	Why in a delay line important in a CRO?	(2M)	CO 2	2
d)	What is the purpose of a trigger pulse in a CRO?	(2M)	CO 2	2
e)	List various features of a CRT.	(2M)	CO 2	2
f)	What is a bridge circuit and what are its advantages?	(2M)	CO 3	2
g)	What are the disadvantages of a Wheatstone bridge?	(2M)	CO 3	2
h)	What is the difference between a simple signal generator and a sweep generator?	(2M)	CO 4	2
i)	What are the advantages of LVDT.	(2M)	CO 5	2
j)	Define intelligent instrumentation.	(2M)	CO 5	2

PART–B (5X10 = 50M)

2a.	Explain the working of a basic DC voltmeter. How can its range be extended?	10M	CO 1	5
	(OR)			
3a.	What are the different types of errors in measurement? Explain briefly.	5M	CO 1	5
b.	Explain the working of successive approximation method .	5M	CO 1	5

4a.	Draw the block diagram of a simple CRO and describe its parts and Explain the working vertical amplifier in detail.	10M	CO 2	5
	(OR)			
5a.	Explain the working of Dual beam CRO in detail with a block diagram .	5M	CO 2	5
b.	Explain the working of sampling oscilloscope.	5M	CO 2	2

6a.	Draw and explain the working of a wien bridge in detail.	10M	CO 3	5
	(OR)			
7a.	Draw and explain the working of a Schearing bridge in detail.	5M	CO 3	5
b.	Draw and explain the working of a Maxwell 's bridge in detail.	5M	CO 3	3

8a.	Explain the operation of function generator with a neat block diagram.	10M	CO 4	5
	(OR)			
9a.	Explain the operation of square and pulse wave generator with a neat block diagram.	10M	CO 4	5

10a.	Explain the working of LVDT in detail	5 M	CO 5	5
b.	Discuss the advantages and disadvantages of LVDT.	5 M	CO 5	4

	(OR)			
11a.	Explain the working principle of Piezo electric transducer in detail.	5M	CO 5	5
b.	Explain the working principle of pressure sensors.	5M	CO 5	5

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