Code No.: (R22EC513PE) | R22 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–I–Semester End Examinations (Regular) - December- 2024
ELECTRONIC MEASUREMENTS AND INSTRUMENTATION
(ECE)

[Time: 3 Hours] **[Max. Marks: 60]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 10 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks.

PART-A **(10 Marks)**

1.	a)	What are the types of errors occured in measuring instruments?	[1M]
	b)	How the range extension is used in AC voltmeters?	[1M]
	c)	List out the advantages of Spectrum analyzer.	[1M]
	d)	Explain the working principle of Video signal generators.	[1M]
	e)	List out the usage of Lissajous figures in oscilloscope.	[1M]
	f)	Explain the Digital storage CROs operating principle.	[1M]
	g)	What is capacitive transducer?	[1M]
	h)	List out the applications of LVDT.	[1M]
	i)	Identify the uses of D.C. bridges.	[1M]
	j)	Distinguish the different types of temperature measuring devices.	[1M]

PART-B **(50 Marks)**

2.	Illustrate the circuit diagram of Ohmmeters series type, and shunt type and explain its operation in detail.	[10M]
	OR	
3.	Explain the working of True RMS Responding Voltmeters.	[10M]
4.	Elaborate with neat diagram explain the working of heterodyne wave analyzer.	[10M]
	OR	
5.	Explain the working principle of Function Generator with a neat sketch.	[10M]
6.	Conclude the need of Time Base Circuits in CRO.	[10M]
	OR	
7.	Explain the working of dual-beam CRO with relevant diagram.	[10M]
8.	Explain the working principle of piezoelectric transducers.	[10M]
	OR	
9.	Explain the operation of LVDT with a neat sketch.	[10M]
10.	Prove an equation to find the sensitivity of the wheat stone bridge.	[10M]
	OR	
11.	Explain the block diagram of Digital Data Acquisition System in detail.	[10M]

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