

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)
UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026

Fourth Semester

Electrical and Electronics Engineering

EE3403 – MEASUREMENTS AND INSTRUMENTATION

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART – A(ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	Give the classification of secondary instruments.	L1	1	2
2.	What are Gross Errors	L1	1	2
3.	Define Creeping in Energy Meter.	L2	2	2
4.	Compare Moving Coil and Moving Iron instruments.	L2	2	2
5.	Write the two conditions to be satisfied for balancing AC bridges.	L2	3	2
6.	Tell me the role of instrumentation amplifiers.	L2	3	2
7.	What are the merits of smart sensors?	L1	4	2
8.	Define transducer and mention its functions.	L1	4	2
9.	List out the types of ADC	L1	5	2
10.	Specify the application of Data Loggers.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11. a	With a block diagram, explain the basic function elements of an General Instrument and explain the functions of each block with example.	L2	1	16
	Or			
b i	Define and explain the following static characteristics of an instrument. a. Accuracy, b. Resolution c. Linearity	L2	1	9
ii	Explain the types of static errors possible in an instrument	L2	1	7
12. a	Discuss the construction and its Working principle of PMMC instrument and also derive the expression for deflection.	L3	2	16
	Or			
b i	Discuss in detail, about the working principle and Characteristics of CT with its phasor diagram.	L3	2	8
ii	Explain the operating principle of instrument transformer.	L3	2	8
13. a	Draw a neat diagram of Kelvin double bridge and explain how to measure low resistance.	L4	3	16
	Or			
b	Evaluate the expression for the current through the galvanometer in case of unbalance Wheatstone Bridge. And also state its application.	L4	3	16
14. a i	Build about the data acquisition system? With generalized block diagram, explain the functions of it.	L3	4	10
ii	Describe the measurements of resistance using strain gauge.	L3	4	6
	Or			
b	Describe the different modes of operation of Piezoelectric transducer.	L3	4	16

15.	a	i	Explain the principle and working of CRT display with a neat diagram	L2	5	8
		ii	Demonstrate the Virtual Instrumentation and Ladder Logic	L2	5	8
Or						
	b		Summarize the Working principle of data logger and sketch the layout.	L2	5	16
