

Register No: _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025

Seventh Semester

Electrical and Electronics Engineering

OMR353 - Sensors

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

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

Q.No	Questions	BTL	CO	Marks
1.	Define measurements and list out the types.	L1	1	2
2.	Compare analog and digital signals.	L2	1	2
3.	Define the functions of resolver.	L1	2	2
4.	Mention the various types of range sensing.	L1	2	2
5.	Define gauge factor of strain gauge.	L2	3	2
6.	Write the significance of Gyroscope.	L1	3	2
7.	Give the properties of piezoelectric crystals.	L2	4	2
8.	List out the advantages of MEMS sensors.	L1	4	2
9.	Write about the instrumentation amplifiers.	L1	5	2
10.	Mention the need of signal conditioning.	L2	5	2

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

Q.No	Questions	BLT	CO	Marks
11.	a Discuss about the types of errors in measurement system and explain how they are corrected? Or b Explain the various sensor calibration techniques. Explain about the causes and remedies for each technique in detail.	L2	1	16
12.	a What is an LVDT? What are the parameters that can be measured by this? Describe with neat diagram and output characteristics the principle of its construction and operation. Or b What is meant by LIDAR? Explain its various components, functionalities and applications.	L2	2	16
13.	a Illustrate about different types of strain gauges with neat sketch. Or b i What are the different types of magnetic sensors? On what principles do they work? Outline briefly. ii Identify and explain the operation of hall effect current sensor.	L2	3	16
		L2	3	8
		L2	3	8

14.	a	Analyze and Discuss the principle of operation of Photo conductive cell and photo voltaic.	L4	4	16
		Or			
	b	Analyze the construction, principle, working and features of RTD and Thermocouple.	L4	4	16
15.	a	What is meant by signal conditioning and why it is required? Develop the block diagram of a DC signal conditioning system and explain the functions of each block.	L2	5	16
		Or			
	b	Explain the fundamental concept and sketch the functional blocks of data acquisition system with advantage and disadvantage.	L2	5	16