Code No: P21CBT01

HALL TICKET NUMBER

PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE (AUTONOMOUS) II B.TECH I SEMESTER END SUPPLEMENTARY EXAMINATIONS, MARCH/APRIL - 2023 SENSORS AND TRANSDUCERS (CSE(IOTCSBT) Branch)

Answer all the questions from each UNIT (5X14=70M)

Time: 3 hours

Max. Marks: 70

Q.No.		Questions	Marks	CO	KL					
		UNIT-I								
1.	a)	Explain generalized scheme for measurement systems.	[7M]	1	2					
	b)	Perform the error analysis in measurement systems.	[7M]	1	4					
OR										
2.	a)	Describe the measurement system with neat block diagram.	[7M]	1	2					
	b)	Distinguish between Sensor and Transducer. Explain about the basic requirement of transducers.	[7M]	1	3					
UNIT-II										
3.	a)	Mention different types of sensors. Explain about architecture of Smart Sensor.	[7M]	2	2					
	b)	Elaborate Thin Film Sensors with relevant diagrams.	[7M]	2	3					
OR										
4.	a)	Compare and contrast different types of sensors.	[7M]	2	4					
	b)	Justify that the sensors are more useful in present day scenario in relevance to its applications.	[7M]	2	4					
	•	UNIT-III								
5.	a)	Explain briefly about the static characteristics and dynamic characteristics of a transducer.	[7M]	3	2					
	b)	Design Second-Order Transducer with necessary example.	[7M]	3	3					
	OR									
6.	a)	Define a transducer. Give its mathematical model.	[7M]	3	2					
	b)	Describe about sinusoidal response for first order transducer.	[7M]	3	2					
UNIT-IV										
7.	a)	Write short notes on Proximity transducers. Use diagrams wherever necessary.	[7M]	4	2					
	b)	Explain the working principle of capacitor thickness transducers. Give its applications.	[7M]	4	3					
		OR								
8.	a)	Explain the working principle and applications of the Fiber Optic transducers.	[7M]	4	2					
	b)	Describe the principle of operation of a LVDT with the help of relevant diagrams.	[7M]	4	2					
	UNIT-V									
9.	a)	What is data acquisition? Give different types of transducer used in data acquisition.	[7M]	5	2					
	b)	What are different signals used in data acquisition. Briefly explain about the signal conditioning.	[7M]	5	3					

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		OR				
10.	a)	Describe the DAQ hardware with necessary diagrams.	[7M]	5	2	
	b)	Write short notes on Analog and Digital Inputs.	[7M]	5	2	

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