PVP 19

Code: 19EC4701F

IV B.Tech - I Semester – Regular Examinations - DECEMBER 2022

SENSORS AND TRANSDUCERS FOR REMOTE APPLICATIONS

(ELECTRONICS & COMMUNICATION ENGINEERING)

Duration: 3 hours Max. Marks: 70

Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
4. All parts of Question paper must be answered in one place.

BL – Blooms Level CO – Course Outcome

PART – A

		BL	CO
1. a)	Define Sensitivity.	L2	CO1
1. b)	Explain the working principle of Light Dependent Resistor.	L2	CO2
1. c)	Explain the working principle of Differential Capacitor.	L2	CO3
1. d)	State the principle of Electrochemical sensor.	L2	CO4
1. e)	Classify Telemetry systems.	L2	CO5

PART – B

			BL	CO	Max. Marks
UNIT-I					
2	a)	Describe Resolution, Hysteresis and Linearity with examples.	L2	CO1	6 M
	b)	Discuss Passive and Active Sensors.	L2	CO1	6 M
OR					
3	a)	Explain Dynamic Characteristics of sensors with an example.	L2	CO1	6 M
	b)	Describe Sensitivity and Selectivity of Sensors.	L2	CO1	6 M
UNIT-II					
4	a)	Analyze Magneto resistors with example applications.	L4	CO2	6 M
	b)	Design a linear potentiometer for a response to the mechanical action.	L3	CO2	6 M
OR					
5	a)	Analyze Light Dependent Resistor with example applications.	L4	CO2	6 M
	b)	Analyze the resistive gas sensors subjective to mix of organic compounds.	L4	CO2	6 M
UNIT-III					
6	a)	Compare variable and differential capacitive sensors.	L4	CO3	6 M
	b)	Analyze Linear variable differential transformer.	L4	CO3	6 M
OR					

7	a)	Compare Magneto elastic and Magnetostrictive sensors.	L4	CO3	6 M
	b)	Illustrate the working of Eddy current sensors.	L3	CO3	6 M
UNIT-IV					
8	a)	Analyze electrochemical sensor with examples.	L4	CO4	6 M
	b)	Illustrate the working principle of piezoelectric sensors with necessary equations.	L3	CO4	6 M
OR					
9	a)	Analyze photovoltaic sensor.	L4	CO4	6 M
	b)	Compare Thermistor and Thermocouple sensors.	L4	CO4	6 M
UNIT-V					
10	a)	Describe Fiber optic telemetry.	L2	CO5	6 M
	b)	Discuss Amplitude modulation telemetry and Frequency modulation telemetry.	L2	CO5	6 M
OR					
11	a)	Summarize satellite telemetry.	L2	CO5	6 M
	b)	Describe voltage and current telemetry systems.	L2	CO5	6 M