KUMARAGURU
college of technology
character is life

B.TECH DEGREE EXAMINATIONS: NOV/DEC 2022

(Regulation 2018)

Third Semester

TEXTILE TECHNOLOGY

U18EII3203**:** Measurements and Instrumentation

COURSE OUTCOMES

CO1: Understand the parameters used for measurement in textile industry
CO2: Identify the various transducers used for various applications
CO3: Understand about how the feature extraction using image analysis in textile processing
CO4: Apply the criteria to choose appropriate sensors for specific applications
CO5: Utilize and apply the control components for textile processing applications

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	Recall the standards used in the textile applications.	CO1	[K$_1$]
2.	List the units of pressure used in the industrial applications.	CO1	[K$_1$]
3.	Represent the Principle of operation strain gauges.	CO2	[K$_2$]
4.	Compare the working principle and applications of RTD and Thermocouple sensors.	CO2	[K$_4$]
5.	Identify the applications of image processing in textile processing.	CO3	[K$_2$]
6.	Identify the Pre-processing techniques used in the digital image processing.	CO3	[K$_1$]
7.	Differentiate accuracy and precision.	CO4	[K$_2$]
8.	Justify cathode ray oscilloscope can be used for frequency measurement.	CO4	[K$_4$]
9.	Identify a closed loop system is used in textile applications.	CO5	[K$_2$]
10.	Classify the programming methods used in the PLC.	CO5	[K$_4$]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	Explain the types of standards that are involved in measurement in textile applications	8	CO1	[K$_2$]
	b)	Discuss in detail the different methods of calibrations of physical parameters used in the industrial applications.	8	CO1	[K$_2$]

12.	a)	Classify the transducers based on the working principles, transduction outputs and applications .	6	CO2 [K$_4$]
	b)	Exemplify the resistive transducers used in to measure temperature and pressure in textile applications.	10	CO2 [K$_3$]
13.		Discuss in brief about the construction and working of Cathode ray oscilloscope for measuring the signals with proper block diagram.	16	CO4 [K$_2$]
14.		Elucidate in detail about any application of the image analysis technique for textile identification.	16	CO3 [K$_3$]
15.		Describe the general block diagram of open loop and closed loop feedback control system with an appropriate examples	16	CO5 [K$_2$]
16.		Explain in detail about the architecture of programmable logic controller used in textile industries with neat sketch.	16	CO5 [K$_2$]

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