Register Number:……..

KUMARAGURU
college of technology
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B.TECH. DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 2018)

Third Semester

TEXTILE TECHNOLOGY

U17TXT3001**:** Physical Properties of Textile Fibres

COURSE OUTCOMES

CO1: Outline the fundamentals of fibre structures and various properties of polymer system.
CO2: Interpret the relationship between various parameters and the moisture properties of fibres.
CO3: Explain about the concepts of mechanical properties of fibres.
CO4: Describe the optical and frictional parameters related with fibre properties.
CO5: Discuss about the fundamentals and measurement of electrical and thermal properties of fibres.

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

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

1.	Define degree of order.	CO1	[K_1]
2.	Illustrate the model of the degree of order of polymer indicating crystalline and amorphous regions.	CO1	[K_2]
3.	Outline relative humidity.	CO2	[K_2]
4.	Summarize the importance of conditioning of samples?	CO2	[K_2]
5.	Define specific stress.	CO3	[K_1]
6.	Explain flexural rigidity.	CO3	[K_2]
7.	List the factors influencing the fibre friction.	CO4	[K_1]
8.	Define birefringence.	CO4	[K_1]
9.	Outline the reasons for static electricity.	CO5	[K_2]
10.	Summarize the importance of dielectric properties of textile fibres.	CO5	[K_2]

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

11.		Explain in detail the working of X-Ray diffraction.	16	CO1	[K_2]
12.	a)	Compare the moisture regain values of cotton, polyester and wool fibres.	8	CO2	[K_5]
	b)	Explain the changes in moisture regain values of different fibres with respect to different relative humidity conditions.	8	CO2	[K_5]
13.		Draw and explain a typical stress-strain curve for a textile material.	16	CO3	[K_2]
14.		Discuss on the stress-strain curves of the different textile fibres,	16	CO3	[K_2]
15.		Demonstrate on the directional frictional force in wool.	16	CO4	[K_2]
16.		Explain in detail the factors influencing the electrical resistance of the fibres	16	CO5	[K_5]

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