Register Number:……..

KUMARAGURU
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B.E/B.TECH DEGREE EXAMINATIONS: APRIL/ MAY 2024

(Regulation 2018)

Second Semester

TEXTILE TECHNOLOGY

U18TXI2201 Textile Fibres

COURSE OUTCOMES

CO1: Discuss about the natural fibres.
CO2: Discuss about manufacturing process, properties & applications of regenerated fibers.
CO3: Explain about the manufacturing process, properties & applications of synthetic fibers.
CO4: Summarize about specialty fibers and identification of fibers.
CO5: Outline about the post spinning operations.
CO6: Compare the properties of various textile 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.	Highlight the morphological structure of cotton fibres.	CO1	[K_2]
2.	What are the chemical constituents of jute?	CO1	[K_2]
3.	How to grade wool fibre?	CO1	[K_2]
4.	What is wet spinning?	CO2	[K_1]
5.	Outline the properties of viscose rayon.	CO2	[K_2]
6.	List the applications of polyester fibres.	CO3	[K_3]
7.	What are the properties of para-aramide fibres?	CO4	[K_2]
8.	Why is spin finish required in fibre manufacturing?	CO5	[K_2]
9.	Compare Nylon 6 and Nylon 6,6.	CO6	[K_2]
10.	Describe air texturizing.	CO5	[K_2]

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

11. **Scenario:** A textile company is exploring sustainable options for producing fabric using natural fibres.

They are considering cotton and jute due to their availability and eco-friendly properties.

a)	Discuss the properties and applications of cotton that make it suitable for sustainable textile production.	7	CO1	[K_2]
b)	Evaluate the benefits and challenges of using jute in fabric manufacturing.	7	CO1	[K_4]
c)	Compare the chemical properties of cotton and jute.	2	CO1	[K_3]

12. **Scenario:** An industrial manufacturer is looking to produce high-performance fabrics for protective clothing. They are evaluating the use of para-aramid and carbon fibres.

a)	Explain the properties of para-aramid fibres that make them suitable for protective clothing.	7	CO4	[K_3]
b)	Analyze the applications and benefits of using carbon fibres in high-performance textiles.	7	CO4	[K_4]
c)	Compare the properties of para-aramid and meta -aramid fibres.	2	CO6	[K_3]

13.	a)	Describe the manufacturing process of polyester fibres.	7	CO3	[K_2]
	b)	Discuss the properties and application of viscose fibre.	7	CO3	[K_3]
	c)	Explain the difference between melt spinning and Dry spinning.	2	CO2	[K_2]
14.	a)	Summarize the production systems of man-made fibres.	7	CO2	[K_2]
	b)	Discuss the Properties and application of viscose fibre.	7	CO2	[K_3]
	c)	Define bicomponent fibres and their advantages.	2	CO4	[K_2]
15.	a)	Explain the process of texturizing with false twist.	7	CO5	[K_2]
	b)	Discuss the role of additives in fibre manufacturing.	7	CO2	[K_3]
	c)	Describe the heat setting mechanism in fibre processing.	2	CO5	[K_2]
16.	a)	Outline the properties and applications of glass fibres.	7	CO6	[K_2]
	b)	Compare the properties of polyester and nylon 6.6 fibres.	7	CO6	[K_3]
	c)	Describe the Dry jet wet spinning process.	2	CO3	[K_2]

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