Register Number:……..

KUMARAGURU
college of technology
character is life

B.TECH DEGREE EXAMINATIONS: DEC 2022

(Regulation 2018)

Fifth Semester

TEXTILE TECHNOLOGY

U18TXT5003: Textile Chemical Processing I

COURSE OUTCOMES

CO1: Discuss the principle and mechanism of singeing, desizing
CO2: Explain the various methods of scouring, bleaching and mercerization
CO3: Prepare the dye recipe for colouring the various fibre/ fabric
CO4: Examine the colour fastness of the dyed fibre/ fabric
CO5: Explain the working principles of various dyeing machines

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

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

1.	Outline the advantages of enzymes used in textile wet processing.	CO1	[K_2]
2.	List out the evaluation methods for desizing process.	CO1	[K_1]
3.	Compare oxidative and reductive bleaching agents.	CO2	[K_2]
4.	Illustrate the changes that happen in the cross-sectional shape during mercerization.	CO2	[K_2]
5.	Classify dyes and pigments.	CO3	[K_2]
6.	Illustrate the dyeing mechanism between the dye and the fibre.	CO3	[K_2]
7.	The water insoluble dyes have more wash fastness properties than water soluble dyes. Justify the statement with reasons.	CO4	[K_5]
8.	List out the different methods adopted to dyeing the polyester fibre.	CO4	[K_1]
9.	Compare mass coloration and fibre dyeing.	CO5	[K_2]
10.	Recall winch and padding mangle.	CO5	[K_1]

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

11.		Elaborate on pretreatment process sequence for polyester/cotton blend and silk woven fabric and highlight the objectives of each process.		CO1	[K_4]
12.	a)	Analyze the importance of maintaining the pH in Sodium hypochlorite, Hydrogen peroxide and Sodium chlorite bleaching process.	8	CO2	[K_4]
	b)	Discuss on the evaluation methods for bleaching process.	8	CO2	[K_2]
13.	a)	Explain in detail the reactive dyeing of cotton fabrics.	8	CO3	[K_2]
	b)	Explain the properties of direct dyes and the application procedure on cotton material.	8	CO3	[K_4]
14.	a)	Discuss the detailed dyeing process to dye polyester / cotton fabrics by thermosal dyeing process.	8	CO4	[K_4]
	b)	Summarize in detail the wash and rubbing fastness test procedures	8	CO4	[K_2]
15.	a)	Demonstrate the working of a jigger machine.	8	CO5	[K_2]
	b)	With neat sketch, determine the working of a jet dyeing machine.	8	CO5	[K_4]
16.		Discuss in detail about properties of vat dyes and dyeing mechanism of vat dyes with cotton material.		CO3	[K_4]

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