KUMARAGURU college of technology
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Register Number:…….

M.E/M.TECH DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2018)

First Semester

MASTER OF TECHNOLOGY MANAGEMENT

P18TME0066: Advances in Textile Finishing

COURSE OUTCOMES

CO1: Explain the various finishing methods involved in fabric processing

CO2: Discuss the mechanism and chemistry of finishing

CO3: Summarize the functional finishes and its application

CO4: Identify the specialty polymers in finishing of fabric

CO5: Test the chemical finished fabric

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

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. The purpose of Anti crease finish is _____ CO1 [K_1]

   a) Increasing fabric stiffness
   b) Preventing wrinkles and creases in fabrics
   c) Improve the fabric durability
   d) Enhancing fabric color

2. _____component is primarily responsible for the problem of formaldehyde release in certain finishing products. CO1 [K_2]

   a) Catalysts
   b) Cross-linking agents
   c) Resins
   d) Formaldehyde

3. Appraise the ascending order of effectiveness of softeners for cellulosic material. CO2 [K_4]
   1.Reactive softener 2.Cationic softener 3. Non-Ionic softener

   a) 3-1-2
   b) 1-2-3
   c) 3-2-1
   d) 2-1-3

4. Match list I with list II and select the correct answer using the codes given below CO2 [K_5]

List I	List II
P. Anionic softener	1. Sodium salt of fatty acids
Q. Cationic softener	2. Benzalkonium chloride

R. Non-ionic softener	3. Polyoxyethylenated alkylphenol
S. Silicone softener	4. PDMS

a) P-4 Q-3 R-1 S-2 b) P-4 Q-1 R-2 S-3

c) P-1 Q-2 R-3 S-4 d) P-1 Q-3 R-4 S-2

5. _____method is commonly used to evaluate the fire resistance of textiles and materials by subjecting them to controlled flame exposure. CO3 [K_1]

a) NFPA 701 b) ISO 9001

c) ASTM D123 d) ASTM E84

6. The chemistry of water repellency primarily involves the use of_____ CO3 [K_1]

a) Halogen compounds b) Silicones or fluoropolymers

c) Phosphorus-based compounds d) Intumescent materials

7. Determine the correctness of the following Assertion [A] & Reason [R] CO4 [K_4]

[A] Intumescent flame retardants function by releasing water vapor when exposed to high temperatures, thereby reducing flammability

[R]Halegenation mechanism involves the creation of inert gases or the dilution of flammable gases in the vicinity of a flame

a) Both [A] & [R] are true and [R] is the correct reason for [A] b) Both [A] & [R] are true and [R] is not the correct reason for [A]

c) Both [A] & [R] are false d) [A] is true but [R] is false

8. Silver nanoparticles used for _____ CO4 [K_2]

a) Soil release finish b) Anti-microbial finish

c) Water repellent finish d) Rot proof finish

9. _____ is a primary drawback associated with foam finishing techniques. CO5 [K_2]

a) Limited color retention b) Uneven application

c) Reduced durability d) Higher production costs

10. Finishes for conductive textiles commonly involve the application of materials that enhance_____ CO5 [K_4]

a) Electrical conductivity b) Moisture absorption

c) UV protection d) Heat retention

PART B (10 x 2 = 20 Marks)

Answer All the Questions

11.	Classify the application methods for resin finishing.	CO1	[K_2]
12.	List out the factors affect the wrinkling.	CO1	[K_2]
13.	Recall the chemistry of softeners.	CO2	[K_1]
14.	Summarize the environmental impact of softeners.	CO2	[K_1]
15.	Define LOI and its importance.	CO3	[K_2]
16.	Compare water repellent and water proof finish.	CO3	[K_1]
17.	List out the advantages of soil release finish.	CO4	[K_2]
18.	Outline the evaluation methods of antimicrobial finish.	CO4	[K_2]
19.	Summarize the mechanism of bioactive finishes.	CO5	[K_2]
20.	Define temperature responsive polymers.	CO5	[K_2]

PART C (6 x 5 = 30 Marks)

Answer All the Questions

21.	Outline various factors involved in crease formation.	CO1	[K_3]
22.	Summarize the methods used to prevent shrinkage and creasing in fabrics.	CO1	[K_2]
23.	Describe advantages and disadvantages of cationic surfactants.	CO2	[K_4]
24.	Discuss the classification, applications, and recent developments in flame retardants.	CO3	[K_4]
25.	Explain about mechanism and chemistry of soil release finish.	CO4	[K_5]
26.	Summarize various coating technology used in textile finishing.	CO5	[K_6]

PART D (Answer any FOUR Questions)

(4 x 10 = 40 Marks)

27.	Explain in detail the effects of resin finishing on fabric properties,and differences between formaldehyde-based and formaldehyde-free finishes.	CO1	[K_4]
28.	Elaborate methods of softening, the chemistry of softeners, and their effects on	CO2	[K_6]

textile properties.

29.	Explain the mechanisms of water repellency, and methods to evaluate textiles treated with repellent finishes.	CO3	[K_4]
30.	Conclude the different evaluation methods for UV Finish.	CO4	[K_5]
31.	Elaborate on conductive textile finishes and its evaluations.	CO5	[K_6]

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