

TEXTILE TESTING AND QUALITY MANAGEMENT

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	What is the primary objective of textile testing in the textile industry? (i) Regulate design standards (ii) Improve aesthetic performance (iii) Assess physicochemical properties (iv) Optimize production efficiency	K1	CO1
	2	Which property of textiles is primarily evaluated using AATCC standards? (i) Fiber length (ii) Colour fastness (iii) Yarn twist (iv) Fabric width	K2	CO1
2	3	Which burning behaviour is shown by nylon fibre? (i) Smells like paper (ii) Forms soft ash (iii) Melts and beads (iv) Glows steadily	K1	CO2
	4	Why does AFIS provide more detailed data than HVI? (i) Measures fibre moisture (ii) Measures yarn twist (iii) Determines yarn fineness (iv) Analyzes individual fibres	K2	CO2
3	5	Which system does the Tex yarn count belong to? (i) Direct system (ii) Indirect system (iii) Fractional system (iv) Wrap system	K1	CO3
	6	Which primary advantage makes the Constant Rate of Extension (CRE) the preferred method of tensile strength? (i) Eliminates all machine vibration (ii) Uniform loading speed (iii) Prevents fabric surface wetting (iv) Increases moisture regain	K2	CO3
4	7	Insect-repellent finishes are mainly applied to _____. (i) Protective textiles (ii) Decorative fabrics (iii) Highly twisted yarns (iv) Elasticized fabrics	K1	CO4
	8	Why does increasing twist improve yarn strength up to an optimum level? (i) Changes fibre fineness (ii) Reduces fibre length (iii) Alters yarn count (iv) Enhances fibre binding	K2	CO4
5	9	Why is wickability important in activewear? (i) Improves elasticity (ii) Increases yarn strength (iii) Promotes moisture spreading (iv) Improves fabric stiffness	K1	CO5
	10	Which solution is used in colour fastness to perspiration testing? (i) Distilled water (ii) Acidic and alkaline solutions (iii) Sodium hypochlorite (iv) Organic solvent	K2	CO5

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SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the importance of moisture regain in evaluating fibre properties.	K2	CO1
		(OR)		
	11.b.	Describe the areas of textile testing covered under ASTM standards.		
2	12.a.	Apply microscopic and burning test methods to differentiate cotton and wool fibres.	K3	CO2
		(OR)		
	12.b.	Illustrate how FTIR analysis is used to confirm the chemical composition of an unknown fibre sample.		
3	13.a.	Analyze the testing procedure used in the Uster tester for evaluating yarn evenness.	K4	CO3
		(OR)		
	13.b.	Examine how yarn twist measurement is carried out for a given sample.		
4	14.a.	Differentiate between tensile strength and bursting strength testing methods.	K4	CO4
		(OR)		
	14.b.	Examine the role of UV-protective finishes in improving textile performance under sunlight exposure.		
5	15.a.	Evaluate a fabric sample by performing the air permeability test.	K5	CO5
		(OR)		
	15.b.	Judge the quality of a fabric sample by using the 4-point inspection system to assess its defects.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Analyze how international textile testing standards contribute to maintaining a consistent product quality.	K4	CO1
2	17	Critically assess the effectiveness of HVI and AFIS systems in ensuring consistent cotton quality control.	K5	CO2
3	18	Design a procedure to compare yarn tensile behaviour using CRT, CRE, and CRL methods.	K6	CO3
4	19	Explain how the Kawabata Evaluation System is used to assess fabric mechanical comfort properties.	K2	CO4
5	20	Examine the effectiveness of colour fastness testing methods in ensuring textile quality assurance.	K4	CO5

Z-Z-Z

END