

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(First Semester)

Branch – COSTUME DESIGN AND FASHION

FABRIC FORMATION TECHNOLOGY

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	Which type of loom is known for its ability to produce complex and detailed fabric patterns through computerized controls? a) Handloom b) Shuttleless loom c) Power loom d) Jacquard loom	K1	CO1
	2	Identify the loom that is specifically used for creating velvet fabrics. a) Powerloom b) Jacquard loom c) Rapier loom d) Circular loom	K2	CO1
2	3	How do 3D fabrics differ from 2D fabrics in terms of their structural properties? a) 3D fabrics have a single layer, while 2D fabrics have multiple layers b) 3D fabrics have added depth and layers, providing more complex structures c) 2D fabrics are used for structural applications only d) 3D fabrics have complex structures but less durable than 2D fabrics	K1	CO2
	4	In 3D orthogonal weaving, which of the following is correct regarding the direction of fibers? a) Fibers are aligned only in the horizontal and vertical directions b) Fibers are interlaced in three mutually perpendicular directions c) Fibers are placed diagonally in relation to the warp threads d) Fibers are twisted together to create a textured surface	K2	CO2
3	5	Recall which type of weave is typically used to achieve continuous line effects. a) Satin weave b) Plain weave c) Twill weave d) Pile weave	K1	CO3
	6	Identify the significance of step patterns in textile design. a) They provide a consistent and unchanging appearance b) They create a dynamic visual effect by varying elements in a systematic way c) They are used mainly for technical purposes d) They have no significant use in modern fashion	K2	CO3
4	7	What is a "spacer fabric" in knitting? a) A fabric designed to trap air and provide insulation b) A thin fabric used for undergarments c) A lightweight fabric for summer wear d) A waterproof fabric for outdoor use	K1	CO4
	8	Tell how the gauge of a knitting machine influences the properties of the knitted fabric. a) It controls the structure of the fabric b) It determines the fabric's thickness and texture c) It is only relevant for circular knitting machines d) It does not affect the fabric's properties	K2	CO4
5	9	Recall a method used in green management to reduce waste in knitting. a) Increasing fabric thickness b) Implementing recycling and reusing of textile scraps c) Using only non-recyclable fibers d) Producing larger quantities of fabric per batch	K1	CO5

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5	10	Infer the certification which is commonly associated with eco-friendly textiles. a) ISO 9001 c) CE Marking	b) OHSAS 18001 d) GOTS	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.	Evaluate the advantages and disadvantages of integrating circular weaving machines into an existing textile manufacturing setup.	K4	CO1
		(OR)		
	11.b.	Analyze the process of carpet weaving.		
2	12.a.	Examine the fundamental differences between 2D and 3D fabrics in terms of their structural characteristics.	K4	CO2
		(OR)		
	12.b.	Evaluate the benefits and limitations of 3D orthogonal weaving in terms of manufacturing and end-use performance.		
3	13.a.	Design a new weave pattern that combines elements of bird's eye and hairline stripes. Explain your design process and intended application.	K6	CO3
		(OR)		
	13.b.	Propose a strategy for using step patterns in home textiles. How would you modify the weave design to ensure both aesthetic appeal and functionality?		
4	14.a.	Evaluate the impact of using Lycra yarn in various knitting applications.	K5	CO4
		(OR)		
	14.b.	Justify how varying machine gauge settings can impact the knitted fabric's physical properties such as weight, drape, and texture?		
5	15.a.	Determine the type of machine primarily used to produce the medical textiles for wound care management.	K5	CO5
		(OR)		
	15.b.	Assess the importance of green business practices in improving corporate social responsibility (CSR) within the knitting industry.		

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	Evaluate the impact of different weaving technologies on the production of denim fabrics.	K4	CO1
2	17	Analyze the comparative advantages of multilayer interlock braiding versus other fabric construction methods in terms of mechanical properties and application performance.	K4	CO2
3	18	Develop a new fabric prototype that utilizes a combination of sateen base with floating weaves and plain threads by inserting one weave over another.	K6	CO3
4	19	Compare and evaluate the effectiveness of full-fashioned knitting machines versus traditional knitting machines in producing shaped garments.	K5	CO4
5	20	Evaluate the effectiveness of various green management strategies in the textile industry, specifically focusing on their application to knitted textiles.	K5	CO5

Z-Z-Z

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