

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION MAY 2026
(Sixth Semester)**

Branch -COSTUME AND FASHION

CONCEPTS OF TECHNICAL TEXTILE

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	A textile product designed for controlled drug release and wound healing would most likely involve (i) Polyolefin woven structures with barrier coating (ii) Nonwoven structures with bioactive finishing (iii) Knitted structures with decorative embroidery (iv) Jute-based woven sacks	K1	CO1
	2	The primary advantage of incorporating antimicrobial fibres into hospital textiles is to (i) Enhance moisture regain (ii) Reduce pathogen transmission risk (iii) Improve abrasion resistance (iv) Increase thermal insulation	K2	CO1
2	3	Ballistic protective textiles rely on which fibre characteristic for energy dissipation? (i) High elongation with low modulus (ii) High tenacity and high modulus (iii) Low density and high absorbency (iv) High crimp and bulkiness	K1	CO2
	4	Compared to conventional packaging, FIBC offers improved performance mainly due to (i) Decorative appeal (ii) High moisture regain (iii) Load-bearing woven structure with flexibility (iv) Increased yarn hairiness	K2	CO2
3	5	Leno bag structures are particularly suitable for agricultural packaging because they provide (i) High barrier protection (ii) Ventilation and visibility (iii) Complete moisture resistance (iv) Thermal insulation	K1	CO3
	6	The integration of moisture-wicking fibres in sports textiles primarily enhances (i) Fabric stiffness (ii) Thermal barrier property (iii) Physiological comfort during activity (iv) Colour retention	K2	CO3
4	7	Fibre branding in technical sportswear mainly aims to communicate (i) Yarn twist level (ii) Functional performance differentiation (iii) Fabric GSM variation (iv) Cost reduction strategy	K1	CO4
	8	Phase Change Materials embedded in textiles function through (i) Chemical crosslinking reaction (ii) Latent heat absorption and release (iii) Increased fibre crystallinity (iv) Surface coating abrasion	K2	CO4

Cont...

5	9	Shape memory polymers used in smart textiles are best described as materials that (i) Permanently deform under stress (ii) Recover original shape after stimulus removal (iii) Increase tensile strength over time (iv) Reduce fabric permeability	K1	CO5
	10	Disposable medical nonwovens are preferred over woven fabrics because they offer (i) Higher yarn strength (ii) Controlled pore structure and cost efficiency (iii) Superior drape characteristics (iv) Increased fabric density	K2	CO5

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 classification and scope of Technical Textiles.	K2	CO1
		(OR)		
	11.b.	Discuss in detail on antimicrobial textiles and their applications.		
2	12.a.	Interpret the manufacturing and finishing process of clothing textiles.	K3	CO2
		(OR)		
	12.b.	Identify the functional features of bullet proof and stab proof vests.		
3	13.a.	Explain the types and applications of packaging textiles.	K2	CO3
		(OR)		
	13.b.	Write short notes on jute sacks and leno bags.		
4	14.a.	Analyze the properties and applications of sports textiles.	K4	CO4
		(OR)		
	14.b.	Explain the functional design of sports footwear.		
5	15.a.	Distinguish the classification and applications of smart textiles.	K4	CO5
		(OR)		
	15.b.	Categorize the shape memory polymers and list out their future prospects.		

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	Attribute the importance of Medical Textiles and their applications in healthcare sector.	K3	CO1
2	17	Explain about the Protective Textiles used in ballistic and body armour applications.	K2	CO2
3	18	Elaborate on packaging textiles with suitable examples and product types.	K3	CO3
4	19	Analyze the role of technical sportswear for women and application of nonwovens in sports textiles.	K4	CO4
5	20	Examine the Smart Textiles, PCM and temperature sensitive shape memory polymers in detail and explain their features.	K4	CO5

Z-Z-Z

END