Register Number: ……..

B.TECH DEGREE EXAMINATIONS: JUNE2013

Second Semester.

FASHION TECHNOLOGY

FTY101:Fibre Science

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

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Which one of the following fibre is a bast fibre

   a) Silk b) Cotton

   c) Ramie d) Sisal

2. Match the following

   P. Jute 1. Regenerated cellulosic fibre

   Q. Viscose 2. Mineral fibre

   R. Wool 3. Multicellular fibre

   S. Asbestos 4. Natural protein animal fibre

   a) P2, Q3, R4, S1 b) P3, Q1, R4, S2

   c) P4, Q1, R2, S3 d) P1, Q2, R3, S4

3. Which of the following is an eco friendly man made fibre

   a) Polyester b) Nylon-6

   c) Nylon-66 d) Lyocell

4. Match the following

   P. Polyester 1.PAN

   Q. Nylon 2. AA

   R. Acrylic 3. DMT

   a) P1,Q2, R3 b) P3, Q2, R1

   c) P2, Q1, R3 d) P2, Q3, R1

5. Identify the unique property of polyester fibre.

a) Elastic recovery
b) Absorbant
c) Crease resistance
d) Lustre

6. Choose the correct set of statements

P. Polyethylene	1. 1.2 g/cc
Q. Viscose	2. 1.48 g/cc
R. Jute	3. 1.0 g/cc
S. Nylon 6,6	4. 1.14 g/cc

a) P, R
b) Q,S
c) R,S
d) P,Q

7. Moisture regain of nylon at standard atmospheric condition of 65%RH and 27°C is -------

a) 2.5%
b) 4.0%
c) 6.5%
d) 8.5%

8. Super absorbent fibres are used in ----------

a) Bandage cloths
b) Wound dressings
c) Surgical gowns
d) Face mask

9. **Statement A**: Viscose fibre has very low wet strength compared to dry strength

Statement R: Polynosic fibre has improved wet strength due to drawing process.

a) A is correct and R is wrong
b) A and R are correct and R is the correct reason for A
c) A and R are correct and R is not the correct reason for A
d) Both A and R are wrong

10. Match the following

P. Flax	1. Dog bone shaped
Q. Acrylic	2. Polygonal
R. Silk	3. Kidney shape
S. Cotton	4. Triangular

a) P2, Q3, R4, S1
b) P3, Q1, R4, S2
c) P2, Q1, R4, S3
d) P1, Q2, R3, S4

PART B (10 x 2 = 20 Marks)

11. Draw the morphological structure of cotton, wool and silk fibres.
12. Differentiate between staple and filament fibre.
13. What are the raw materials used for the synthesis of polyester, Nylon 6 and Nylon 66.
14. List out the importance of spin finishes and texturization.
15. Compare the wet strength of cotton, polynosic and acetate rayon fibres.
16. Give the moisture regain values of wool, viscose rayon, polyester and silk fibres.
17. State the applications of PLA fibre, gold and silver coated fibres.
18. What are elastomeric fibres? List out their applications.
19. How could you differentiate textile fibres based on their feel.
20. Tabulate the solvents of any six fibres.

PART C (5 x 14 = 70 Marks)

21.	a)	(i)	Briefly explain the various steps involved in the Jute cultivation and fibre production.	(10)
		(ii)	Give the classification of textile fibres	(4)
			(OR)	
	b)	(i)	Explain in detail about the essential and desirable properties of textile fibres.	(10)
		(ii)	Give the chemical structure of cotton and wool fibres	(4)
22.	a)	(i)	Elaborate on the manufacturing process of polyester staple fibres.	(10)
		(ii)	List out the modifications done in viscose rayon production process to produce polynosic rayon fibre	(4)
			(OR)	
	b)	(i)	Explain the manufacturing process of Viscose rayon fibre with a flow chart	(10)
		(ii)	What are regenerated protein fibres? State their special features.	(4)
23.	a)		Elaborate on the chemical composition, physical & chemical properties and end uses of Silk fibre.	

(OR)

b) Elaborate on the chemical composition physical and chemical properties and end uses of Nylon 6,6 fibre.

24. a) With suitable example, elaborate on the properties and end uses of flame retardant fibres, high tenacity and high modulus fibres

(OR)

b) Discuss in detail about the properties and end uses of ultra fine fibres, Nano fibres and super absorbent fibres.

25. a) (i) Define fibre linear density and give the conversion factors. (4)

(ii) Describe the fibre identification techniques using designer test and chemical test. (10)

(OR)

b) Elaborate on identification of fibres using burning test and microscopic test.

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