Register Number: ……..

B.TECH DEGREE EXAMINATIONS: NOV/DEC 2013

Second Semester

TEXTILE TECHNOLOGY

TTX101: Textile Fibres

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

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Cotton is a_____ fibre
   a) Scaly b) Woody
   c) Unicellular d) Multi cellular
2. Crystallinity of a fibre can be measured by
   a) Density of experimental sample b) Density of crystalline area
   c) Density of amorphous area d) All the three
3. Elastic recovery of wool fibre is higher than other natural fibres which is due to_____
   a) Scaly epithelium b) Medulla
   c) Helical structure of polymer system d) Amino acids
4. Brin and bave are names of _____filaments of raw silk.
   a) Double and Single b) Triple and Single
   c) Single and Triple d) Single and double
5. Higher stretching after filament spinning leads to_____
   a) Lower degree of orientation & less crystallinity b) Lower degree of orientation & more crystallinity
   c) Higher degree of orientation & more crystallinity d) Higher degree of orientation & less crystallinity
6. Vicara is generally extracted from_____
   a) Ground nut meal b) Milk
   c) Soya bean meal d) Corn gluten meal
7. Schweitzer's reagent is the ammonical solution of _____
   a) Ammonium Hydroxide b) Sodium Sulphate
   c) Copper Hydroxide d) Sodium Hydroxide
8. The alternate arrangements of hard and soft segments are available in_____ fibre.
   a) Spandex b) Polyurethane
   c) Lycra d) All the three

9. Polyvinyl chloride fibre would contain at least by _____ % as vinyl chloride.
   a) 50 b) 65
   c) 85 d) 90
10. Poly vinyl alcohol fibre is obtained by
   a) Pyrolosis b) Osmosis
   c) Acetylation d) Hydrolysis

PART B (10 x 2 = 20 Marks)

11. What are the essential properties of technical grade fibre?
12. What is the importance of crystallinity with respect to textile fibre?
13. Give the names of cotton varieties?
14. Draw the cross sectional and longitudinal view of wool fibre along with features.
15. List the necessity of manmade fibre with respect to natural fibres.
16. What are the properties of polynosic fibres?
17. Differentiate the acrylic and modacrylic fibres.
18. Classify the polyethylene fibre based on its molecular weight along with the range of it.
19. What are constituents of A type glass fibre?
20. Why polyurethane has more elastic recovery than other fibres?

PART C (5 x 14 = 70 Marks)

21. a) (i) Elaborate on the essential properties of textile fibres. (7)
    (ii) Describe about the classification of textile fibres. (7)

(OR)

    b) (i) Explain about the importance of degree of polymerization and orientation with respect to properties of textile fibres. (6)
    (ii) What are all the requirements of fibre formation? Substantiate with examples. (8)

22. a) Write about physical and chemical properties of cotton fibres.

(OR)

    b) Give a detailed note on physical and chemical properties of silk fibre.

23. a) Explain about the production of viscose rayon with suitable flow chart and diagrams.

(OR)

	b)	(i)	Compare the properties of acetate and triacetate fibres.	(7)
		(ii)	Elaborate on melt spinning of filaments with suitable diagram.	(7)
24.	a)	(i)	What are all the advantages and disadvantages of polyester fibre in comparison with nylon fibre?	(6)
		(ii)	Describe about the production of polyester fibre through DMT route.	(8)

(OR)

	b)		Write in detail about the production of polyacrylonitrile through solution polymerization and solution spinning methods with suitable diagram.	
25.	a)		Share your procedural methods to identify any seven textile fibres through flammability and solubility tests.	(7+7)

(OR)

	b)		Pen down the properties of glass and PVC fibres	(7+7)

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