

**B.TECH DEGREE EXAMINATIONS: MAY/JUNE 2014**

(Regulation 2009)

Second Semester

**B.TECH FASHION TECHNOLOGY**

FTY101: Fibre Science

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. Exposure to air in presence of sunlight for a long period will have an effect on cotton
  - a) Cellulose hydrate
  - b) Oxy-cellulose
  - c) Hydro-cellulose
  - d) Grafting of cellulose
2. The specific gravity of wool fibre
  - a) 1.30
  - b) 1.52
  - c) 1.2
  - d) 2.0
3. The wet strength of viscose rayon
  - a) 1.4 g/d
  - b) 2.5 g/d
  - c) 5.2 g/d
  - d) 1.0 g/d
4. The melting point of DMT in polyester
  - a) 340
  - b) 140
  - c) 280
  - d) 220
5. ----- texturisation process is used for cellulose and protein
  - a) Air
  - b) solvent
  - c) Stuffer-box
  - d) False –twist
6. Toughness index of elastomeric fibres
  - a) 2.6
  - b) 1.2
  - c) 0.56
  - d) 5.3
7. Breaking extension % of carbon fibre
  - a) 8.0
  - b) 5.0
  - c) 1.0
  - d) 25
8. The absorbcency of super absorbent fibre
  - a) 20 times
  - b) 150 times
  - c) 5 times
  - d) 1000 times

9. Conversion of metric count into English count is
  - a)  $N_m \times 0.19$
  - b)  $N_m \times 0.59$
  - c)  $N_m \times 0.50$
  - d)  $N_m \times 0.75$
10. Polyester fibre is soluble in
  - a) NaOH
  - b) Sulphuric acid
  - c) NaCL
  - d) phenols

**PART B (10 x 2 = 20 Marks)**

11. Define staple and filament fibre
12. Write short note on cultivation of flax fibre
13. List the physical properties of modal fibre
14. Write the importance of spin finish and texturisation process
15. List the biological properties of wool and silk fibre
16. What is meant by modified fibres? Give suitable examples
17. Differentiate between nano and ultra-fine fibre
18. List the application of SAP in hygiene and medical textiles
19. Distinguish between Tex and denier
20. How will you test the density of textile fibres?

**PART C (5 x 14 = 70 Marks)**

21. a) (i) Write the cultivation method adopted for jute material (7)  
(ii) Discuss the properties of bi-component fibre and also state their end uses. (7)  
**(OR)**  
b) (i) Briefly discuss the essential and desirable properties of textile fibres (7)  
(ii) Explain the physical and chemical properties of silk and wool fibre (7)
22. a) (i) Explain the production sequence of viscose rayon with neat sketches. (7)  
(ii) Discuss the physical and chemical properties of soybean fibre (7)  
**(OR)**  
b) (i) Describe the production of regenerated protein fibre with neat sketch. (7)  
(ii) Discuss the air jet and false twist texturizing process with suitable sketches. (7)
23. a) (i) Explain the optical properties of synthetic fibres (7)  
(ii) Discuss the moisture and tensile behavior of natural fibres (7)

**(OR)**

- b) (i) Describe the chemical and biological properties of regenerated fibre (7)  
(ii) Discuss the end use of modified and synthetic fibres (7)
24. a) (i) Describe the flame retardant fibres and list the end uses (7)  
(ii) Discuss the properties of nano fibres and list the end uses (7)
- (OR)**
- b) (i) Explain the mechanism of absorbency of super-absorbent fibre (7)  
(ii) Discuss the gold and silver coated textile materials properties and end uses. (7)
25. a) (i) Describe the testing procedure of solubility of fibres (7)  
(ii) Discuss the microscopic view of any 6 textile fibres (7)
- (OR)**
- b) (i) Discuss the direct yarn numbering system and its merits (7)  
(ii) Explain the flammability characteristics of natural and synthetic fibres (7)

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