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B.Tech. (Textile Engg.) (2011 Onwards) (Sem.-3)

TEXTILE FIBRE-I Subject Code: BTTE-301 M.Code: 71653

Time: 3 Hrs. Max. Marks: 60

### **INSTRUCTIONS TO CANDIDATES:**

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt ANY FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt ANY TWO questions.

## **SECTION-A**

# 1. Answer briefly:

- a. What are the drawbacks of jute fibre for its application in apparel?
- b. Why retting is an important process for bast fibre processing?
- c. Why silk fabrics exhibit a scroopy handle?
- d. Between medulated and unmedulated wool, which is superior and why?
- e. Why cellulose acetate exhibit glass transition temperature?
- f. What may the reasons for relatively less bulk production of regenerated protein fibres?
- g. Why wet spinning of flax is done?
- h. Draw neat and labeled diagram of the longitudinal view of cotton and wool.
- i. Out of condensation and addition polymers, which will exhibit higher die-swell ratio and why?
- j. Define textile fibre. Mention four non apparel applications of textile fibres.



## **SECTION-B**

- 2. Describe the manufacture of Tencel fibre.
- 3. With the help of a neat sketch, briefly describe the solution dry spinning process. For which types of polymers solution dry spinning is used?
- 4. How alkali treatment influences the structure and properties of cotton?
- 5. What is the action of alkali on protein fibres? Why exposure to alkali is considered more harmful for wool compared to silk?
- 6. Why wet strength of viscose reduces, where as that of cotton increases?

## **SECTION-C**

- 7. Describe with neat sketch the various quenching systems for melt spinning. What are the essential and desirable properties of fibre forming polymers?
- 8. What is Polynosic fibre? Describe in detail the manufacture and properties of Polynosic fibre.
- 9. With the help of a neat sketch describe the fine structure of wool. What are the factors that contribute to the differences in properties of cotton and viscose?

NOTE: Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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