

July-22-00233

B. Tech. EXAMINATION, 2022

Semester III (CBCS)

NATURAL FIBRE

TE-302

Time : 3 Hours

Maximum Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt *Five* questions in all, selecting *one* question from each Sections A, B, C and D. Q. No. 9 is compulsory. Use of non-programmable calculator is allowed.

Section A

1. Define Textile fiber. What characteristics a fiber should possess to be used as a textile fiber ? 10
2. Discuss various types of polymer. Explain its orientation and crystallinity in fiber. 10

Section B

3. Explain chemical and morphological structure of cotton fiber. Discuss its chemical properties. 10
4. Explain the production and processing of Hemp fiber and discuss its properties and application. 10

Section C

5. Explain Longitudinal and Cross-Sectional view of silk fiber with necessary diagram and discuss various types of silk varieties available in India. 10
6. What are the varieties of wool fiber available globally? Discuss physical and chemical properties of wool fiber. 10

Section D

7. Write short notes on the following (any two) :
 - (a) Modal
 - (b) Tencel
 - (c) Casein. 5+5=10
8. Explain the principle of manufacturing and purification of Viscose rayon fiber. Discuss its physical and chemical properties. 10

(Compulsory Question)

9. Attempt all questions :
 - (a) Differentiate between staple fiber and filament fiber and tow.
 - (b) What do you understand by Tencel ?
 - (c) Moisture regain of silk and viscose fiber.
 - (d) Write down any *two* properties of casein fiber.
 - (e) Explain Degumming silk.
 - (f) Density of Viscose, Ramie and Modal fiber.
 - (g) Uses of Banana fiber in clothing ?
 - (h) What do you understand by length to width ratio of textile fiber ?
 - (i) Uses of coir fiber
 - (j) Why wet strength of cotton is more than its dry strength ? 10×2=20