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Total Pages : 03

**Sep-21-00029**

**B. Tech. EXAMINATION, 2021**

Semester III (CBCS)

NATURAL FIBRE

TE-302

*Time : 2 Hours*

*Maximum Marks : 60*

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*The candidates shall limit their answers precisely within 20 pages only (A4 size sheets/assignment sheets), no extra sheet allowed. The candidates should write only on one side of the page and the back side of the page should remain blank. Only blue ball pen is admissible.*

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

**Section A**

1. What are the varieties of cotton available globally ?  
Discuss its comparison with Indian Cotton. **15**

2. Discuss various types of polymer. Explain its orientation and crystallinity in fiber. 15

### Section B

3. Explain chemical and morphological structure of cotton fiber. Discuss its chemical properties. 15
4. Explain the production and processing of any *one* Bast fiber and discuss its properties and application. 15

### 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. 15
6. What are the varieties of Wool fiber available globally? Discuss physical and chemical properties of wool fiber. 15

### Section D

7. Write short notes on any *two* of the following :
- (a) Sisal

- (b) Tencel
- (c) Casein. 7.5×2=15

8. Explain the principle of manufacturing and purification of Viscose rayon fiber. Discuss its physical and chemical properties. 15

### (Compulsory Question)

9. Attempt all questions : 10×1.5=15
- (a) What do you understand by Spider silk ?
- (b) Write any *two* desirable property of textile fiber.
- (c) Differentiate between Staple fiber and filament.
- (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) Define term felting.
- (i) Write moisture regain of Wool, Silk, Viscose and Cotton.
- (j) Define Reeling process.