

# 17223

11819

**3 Hours / 100 Marks**

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.  
(2) Answer each next main Question on a new page.  
(3) Illustrate your answers with neat sketches wherever necessary.  
(4) Figures to the right indicate full marks.  
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. **Attempt any TEN of the following:** **20**
- Differentiate between fibre and filament.
  - Define degree of Polymerisation.
  - List down any four essential properties of textile fibres.
  - Draw cross-section of cotton fibre and label the parts.
  - Draw cross sectional diagrams of fully matured half matured and immature cotton fibre.
  - Why Viscose Rayon is called as re-generated fibre?
  - Draw structure of cellulose.
  - List down various additives used in co-agulating bath of wet spinning process of viscose rayon. State their functions.
  - State any four physical properties of cellulose triacetate.
  - Explain the concept of heterogeneous acetylation.
  - Draw cross sectional diagram of silk twin filament and label the parts.

P.T.O.

- l) Explain degumming of silk. Why is it done?
- m) How grading of wool is done?
- n) Give classification of unconventional Natural fibres.
- o) Write any four uses of coir fibre.

**2. Attempt any FOUR of the following: 16**

- a) Give detailed classification of all natural fibres.
- b) Write a note on cultivation of cotton in India.
- c) Write a flow chart for manufacturing Viscose Rayon.
- d) Draw a flow chart for manufacturing Acetate Rayon.
- e) Explain life cycle of silk worm.
- f) Describe in short cultivation of jute and flax in India.

**3. Attempt any FOUR of the following: 16**

- a) Write any two of each of essential and desirable properties of textile fibres. Explain their significance.
- b) Draw morphological structure of cotton fibre and label the parts.
- c) Describe in brief manufacturing process of Lyocell fibre.
- d) Write a short note on purification of cotton linters for manufacturing of acetate rayon.
- e) Why silk is called as natural polyamide?
- f) Draw morphological structure of flax fibre and label the parts.

- 4. Attempt any FOUR of the following:** **16**
- a) Describe the concept of crystalline mesomorphous and amorphous region of textile fibres and state their importance.
  - b) Describe any two of each of the physical and chemical properties of cotton fibres.
  - c) Describe the manufacturing of HWMF.
  - d) Describe any two of each of the physical and chemical properties of cellulose triacetate.
  - e) Give any two of each of the physical and chemical properties of silk.
  - f) Describe the extraction of Banana fibre. Describe physical and chemical properties of the same. (two of each)
- 5. Attempt any TWO of the following:** **16**
- a) Explain the action of acid and alkali and heat and light on cotton fibre.
  - b) Describe various techniques of producing fibres / filaments with the help of a schematic diagram.
  - c) Describe various physical and chemical properties of Lyocell fibre.
- 6. Attempt any TWO of the following:** **16**
- a) Draw morphological structure of wool fibre and label the parts.
  - b) (i) Give chemical composition of wool fibre. State any four chemical and physical properties of wool fibre.  
(ii) Describe the chemical method of detection of oxycellulose and hydrocellulose.
  - c) Describe wet spinning technique of production of Viscose Rayon with the help of a neat diagram.
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