

17223

15162

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 FIVE of the following:** **20**
- a) State the concept of crystalline region and amorphous region in the fibre.
 - b) Define the terms: Fibre, filament, yarn and degree of polymerisation.
 - c) Describe a method of cultivation of cotton.
 - d) Write any two physical and two chemical properties of silk fibre.
 - e) Write the chemical composition of Jute fibre. Explain any two applications of Jute fibre.
 - f) Write two physical and two chemical properties of banana fibres.
 - g) What is bass fibre? Give two examples and two applications.

P.T.O.

- 2. Attempt any TWO of the following:** **16**
- a) Describe the classification of textile fibres according to their nature and origin with suitable examples from each category.
 - b) Explain any four physical and chemical properties of cotton fibre write its various industrial applications.
 - c) What are polynosic fibre? Explain the physical and chemical properties and any four uses of polynosic fibres.
- 3. Attempt any TWO of the following:** **16**
- a) Explain the essential and desirable properties of textile fibres.
 - b) With neat diagram, describe the morphological structure of cotton fibre. Enlist various varieties of cotton fibre and explain how is gradation of cotton fibre done?
 - c) Explain the concept of homogeneous and heterogeneous acetylation. Write the physical and chemical properties of cellulose triacetate.
- 4. Attempt any TWO of the following:** **16**
- a) With neat diagram, explain the dry spinning and wet spinning processes. Explain two advantages and two limitations of both the processes.
 - b) Explain in detail the physical and chemical properties of Lyocell fibre. Explain the uses of Lyocell fibre.
 - c) Describe the life cycle of silk worm. Write about varieties of silk production of raw silk.

5. Attempt any TWO of the following: 16

- a) Explain in detail the degradation of cellulose by formation of oxycellulose and hydrocellulose. Describe the chemical methods of detection of oxycellulose and hydrocellulose.
- b) Write about the raw materials and explain the manufacturing process for cellulose acetate. Write the chemical properties of cellulose acetate.
- c) With neat diagram, describe the morphological structure of wool fibre. Write chemical composition and chemical properties of wool.

6. Attempt any TWO of the following: 16

- a) What is viscose rayon? Describe the manufacturing process for viscose rayon with the functions of various additives used in manufacturing of viscose rayon.
 - b) What is degumming of silk? Explain any two methods for degumming of silk fibre.
 - c) What is retting? Describe various methods used for retting of flax fibre. Write the uses of flax fibre.
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