

22368

21819

3 Hours / 70 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.

Marks

1. Attempt any FIVE of the following :

10

- (a) Define the terms :
 - (i) Fibre
 - (ii) Polymer
- (b) Elaborate the terms :
 - (i) LOY
 - (ii) POY
- (c) Give chemical composition of raw cotton.
- (d) Comment on following two physical properties of Viscose Rayon :
 - (i) Tenacity
 - (ii) Moisture absorbancy
- (e) Name the raw material used for manufacturing Nylon 66.
- (f) Write advantages of textured yarn.
- (g) Write two properties of bulk yarn.

2. Attempt any THREE of the following:

12

- (a) Explain the role of crystalline region in fibre structure with suitable sketch.
- (b) Draw neat Labelled diagram of melt spinning equipment.
- (c) Give the classification of Bast fibres.
- (d) Write the process flow sequence for viscose rayon manufacturing.

- 3. Attempt any THREE of the following : 12**
- (a) Describe solidification process in wet spinning with the help of a neat diagram.
 - (b) Write two physical properties and two uses of coir fibre.
 - (c) Illustrate essential requirement of wet spinning process for conversion of polymer into fibre.
 - (d) Explain melt spinning of polyester fibre by mentioning process parameters.
- 4. Attempt any THREE of the following : 12**
- (a) Show the chemical reactions of poly-propylene fibre manufacturing.
 - (b) Explain 'fibrillation' process in Tencel fibre manufacturing.
 - (c) With neat sketch explain morphology of silk fibre.
 - (d) Explain spinning process of acrylic fibre with help of a flow chart.
 - (e) Explain the effect of texturizing time on properties of texturised yarn.
- 5. Attempt any TWO of the following : 12**
- (a) Explain addition polymerisation with an example. State the characteristics of fibre forming polymer.
 - (b) Explain wet spinning process with a suitable example.
 - (c) Explain polymerisation technique used for acrylic manufacturing process.
- 6. Attempt any TWO of the following : 12**
- (a) Describe :
 - (i) Preparation of dope in dry spinning.
 - (ii) Morphological structure of wool fibre.
 - (b) Explain Air texturizing process with outline sketch. State advantages of air texturizing over false twist texturizing.
 - (c) Explain the effect of (i) Twist (ii) Temperature on texturizing process.
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