22368

12425

3 Hours / 70 Marks Seat No. | | | | | | | | |

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) Assume suitable data, if necessary.

Marks

1. Attempt any FIVE of the following : **10**

(a) Define the terms : (i) Polymerisation (ii) Degree of polymerisation.

(b) Enlist the characteristics of fibre forming polymers.

(c) Enlist the various spinning processes.

(d) State the end uses of "Jute" fibre.

(e) State the end uses of "Tencel" fibre.

(f) Draw chemical structure of polyester fibre.

(g) State the purposes of "Texturising".

2. Attempt any THREE of the following : **12**

(a) Explain essential properties of fibres.

(b) Explain solidification process in dry spinning.

(c) Explain the concept of LOY and FOY.

(d) State and explain any two physical and two chemical properties of cotton.

3. Attempt any THREE of the following : **12**

(a) With neat sketch explain various parts of melt spinning equipment.

(b) With neat labelled diagram explain the morphological structure of wool.

(c) Give detailed process sequence for viscose rayon manufacturing.

(d) Describe physical and chemical properties of Tencel fibre.

4. Attempt any THREE of the following : **12**

(a) With chemical reaction explain the techniques of addition and condensation polymerization.

(b) Identify the essential requirements of wet spinning with reference to polymer properties.

(c) With process flow chart, explain manufacturing of polyester fibre.

(d) Give the advantages of textured yarn.

(e) Describe friction disc texturizing w.r.t. passage of yarn, construction and its working.

5. Attempt any TWO of the following : **12**

(a) State the chemical constitution of Jute and Flax fibres.

(b) Explain manufacturing of Nylon 66 with the help of a flow chart.

(c) Explain the factors influencing texturizing with their significance.

6. Attempt any TWO of the following : **12**

(a) Give the comparison between tencel fibre and viscose fibre.

(b) Illustrate with flow chart, the process of manufacturing polyacrylonitrile fibre.

(c) Illustrate with neat sketch "Air texturizing" w.r.t. passage of yarn, construction and working.
