22368

11920

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.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

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

(a) Define fibre. Give two examples.

(b) Draw crystalline & amorphous region in fibre structure.

(c) Define POY. Give its significance.

(d) List names of any four commercial synthetic fibres used in textile industry.

(e) Name two varieties of silk.

(f) Explain concept of regenerated fibres.

(g) Write two uses of polyacrylonitrile fibre.

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

(a) Describe characteristics of fibre forming polymer.

(b) Explain "MELT-SPINNING" machine with neat sketch.

(c) Explain Morphological structure of Wool fibre with neat sketch.

(d) Write two chemical & two physical properties of Viscose Rayon fibre.

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

(a) Describe with neat sketch "WET-SPINNING" process.

(b) Write two physical & two chemical properties of cotton fibre.

(c) Draw process flow chart to Manufacture polypropylene fibre.

(d) Explain concept of false twist texturizing.

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

(a) Explain in detail, the manufacturing process of Viscose Rayon fibre.

(b) Explain the process of manufacturing Nylon 6, 6 also include all types of chemical reactions while manufacturing.

(c) Explain following terms :

(i) Polymer

(ii) Degree of polymerisation

(d) Explain the essential requirements of wet spinning polymer.

(e) Describe the manufacturing method of polyacrylonitrile fibres.

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

(a) Describe with neat sketch manufacturing process of polyester fibre, also include all types of chemical reaction involved in manufacturing.

(b) Compare non-texturized and texturized filament yarn with respect to following points :

Appearance, Physical properties, Uses, Various types, Cost involved, Preference.

(c) Compare Melt & Wet spinning processes with respect to following points :

Principle of spinning, Structure of fibre, Temperature range required, Molecular weight of polymer, Heat & Mass transfer, Toxicity.

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

(a) Describe with neat sketch construction and working of friction disc-texturizing.

(b) Explain in detail life cycle of silk with a neat sketch.

(c) Draw a neat sketch of air texturizing process and describe its working principle in brief.