

Scheme – I

Question Paper Profile

Programme Name : Diploma in Textile Manufacture

Programme Code : TX

Semester : Third

Course Title : Basics of Fibre Science

Marks : 70

22368

Time : 3 Hrs.

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1) Attempt any FIVE of the following.

10 Marks

- a) List names of four Natural fibres.
- b) Define the term 'Fully Oriented Yarn'.
- c) Draw the morphological structure of jute fibres.
- d) State four end uses of viscose rayon fibre.
- e) State any two physical properties of acrylic fibre.
- f) State the advantages of textured yarn.
- g) List the types of polymerization.

Q.2) Attempt any THREE of the following.

12 Marks

- a) Differentiate between wool and silk fibre on the basis of their properties.
- b) Explain essential properties of textile fibre.
- c) Explain Dry spinning process with neat sketch.
- d) Describe the advantages and disadvantages of man-made fibres.

Q.3) Attempt any THREE of the following.

12 Marks

- a) Describe wet spinning process with labeled diagram.
- b) Explain the morphological structure of wool.
- c) Draw the flow chart of nylon 66 fibre manufacturing process.

- d) Write two physical properties and two uses of polypropylene fibre.

Q.4) Attempt any THREE of the following.

12 Marks

- a) Describe the fibrillation in tencel fibre.
- b) Describe addition polymerization process with one suitable example.
- c) Explain melt spinning process of Polyester fibre.
- d) List the raw material required for Polyacrylonitrile fibre manufacturing also its end uses.
- e) Explain the significance of i)temperature ii)twist on properties of textured yarn.

Q.5) Attempt any TWO of the following.

12 Marks

- a) Define the terms:i) fibre ii)filament iii) degree of polymerization iv) monomer.
- b) Explain Viscose Rayonfibre manufacturing process with the help of process flow chart.
- c) With respect to friction disc textirising method
 - (i) Draw a labeled diagram of the process.
 - (ii) Explain the function of parts involved in the process

Q.6) Attempt any TWO of the following.

12 Marks

- a) Explain manufacturing process of Polyester with labeled diagram
- b) Explain the manufacturing processtencel fibre with labeled diagram of wet spinning.
- c) With respect to air texturising method
 - (i) Draw a labeled diagram of the process.
 - (ii) Explain the function of parts involved in the process

Scheme – I

Sample Test Paper - I

Programme Name : Diploma in Textile Manufacture

Programme Code : TX

Semester : Third

Course Title : Basics of Fibre Science

Marks : 20

22368

Time : 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

08 Marks

- a) State the essential properties of fibre
- b) List the natural fibres
- c) Define low oriented and high oriented yarn
- d) State advantages of natural fibres
- e) List the fibres spun by melt spinning
- f) Define the term polymerization
- g) Draw Longitudinal section (LS) and Transverse section (TS) of Cotton

Q.2 Attempt any THREE.

12 Marks

- a) Classify the textile fibres according to their origin.
- b) Illustrate Amorphous and Crystalline structure of wool fibre with labeled diagram.
- c) Describe the terms monomer, polymer and degree of polymerisation.
- d) Identify cotton, wool and silk fibre from their physical properties.
- e) Explain the function of Melt spinning unit with the help of a schematic diagram.
- f) Explain morphological structure of Wool fibre with the help of a neat diagram.

Scheme – I

Sample Test Paper - II

Programme Name : Diploma in Textile Manufacture

Programme Code : TX

Semester : Third

Course Title : Basics of Fibre Science

Marks : 20

22368

Time : 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

08 Marks

- a) List the regenerated fibres
- b) List the physical properties of regenerated fibre
- c) State the physical properties of Nylon 66
- d) Define the term manmade fibres
- e) State the end uses of viscose and Tencel
- f) Draw chemical structure of raw material required for manufacturing polyester

Q.2 Attempt any THREE.

12 Marks

- a) Draw the process flow chart for manufacturing Viscose Rayon.
- b) Explain wet spinning process of Tencel fibre.
- c) Draw process flow chart for manufacturing of Nylon 66.
- d) Explain low temperature polymerization process of Polypropylene.
- e) Describe the concept of false twist texturing. State advantages of texturing. State properties of textured yarn.
- f) Describe the false twist texturing with the help of a neat labeled diagram.