

Scheme – I

Sample Question Paper

Programme Name : Diploma in Textile Technology

Programme Code : TC

Semester : Third

Course Title : Natural Substrates

Max. Marks : 70

22361

Time: 3 Hours

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) Define the terms : I) Spun yarn II) filament yarn
- b) State the any two essential properties of textile fibres.
- c) Classify cotton varieties based on its staple length.
- d) State any four uses of banana fibre
- e) Name any four amino acids present in wool fibre
- f) State any four varieties of silk
- g) State four end uses of silk fibre.

Q.2) Attempt any THREE of the following.

12 Marks

- a) Compare between amorphous region and crystalline region of fibre.
- b) Describe the process to use density gradient column to identify class of the cotton fibre.
- c) Explain effect of acid on cellulose based on its concentration.
- d) Explain use of staple length in grading of cotton.

Q.3) Attempt any THREE of the following.

12 Marks

- a) Explain with sketch the importance of mesomorphous region of fibre.
- b) Determine moisture content of fibres by selecting relevant method.

- c) Identify maturity of cotton by chemical test.
- d) Relate barium activity number test for determining accessible region of fibre

Q.4) Attempt any THREE of the following.

12 Marks

- a) Suggest uses of natural fibres for industrial applications.
- b) Illustrate the damage caused to cellulose while treating with oxidizing agents.
- c) Explain the method for extraction of Sisal fibre from its leaf.
- d) Explain the importance of cystine links in wool.
- e) Justify the statement 'wool is elastic fibre'.

Q.5) Attempt any TWO of the following.

12 Marks

- a) Choose the relevant method for retting of jute fibre based on time required for the treatment.
- b) Justify the statement 'banana fibre doesn't loses strength in saline water'
- c) Illustrate the effect of salt linkages on dyeing behavior of wool fibre.

Q.6) Attempt any TWO of the following.

12 Marks

- a) Differentiate between cotton and jute fibre based on their morphology.
- b) Explain process of sericulture for production of silk.
- c) Explain relevance of luster in silk to its morphology.

Scheme – I

Sample Test Paper - I

Programme Name : Diploma in Textile Technology

Programme Code : TC

Semester : Third

Course Title : Natural Substrates

Max. Marks : 20

22361

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) Define the term i) polymer ii) functionality of polymer.
- b) State four physical properties of cotton.
- c) State four end uses of jute fibre.
- d) Sketch a labeled schematic structure of fibre.
- e) List the name of chemicals used for detection of oxycellulose
- f) State four end uses of linen fibre

Q.2 Attempt any THREE.

12 Marks

- a) Explain the importance of amorphous region in deciding chemical properties of fibre
- b) Explain one chemical test for identification of hydrocellulose.
- c) Compare advantages of chemical retting with respect to dew retting.
- d) Explain hemicelluloses with chemical structure.
- e) Determine maturity of cotton by chemical test
- f) Describe the method of determination lignin content of Flax and show its relevance to strength of linen yarn.

Scheme – I

Sample Test Paper - II

Programme Name : Diploma in Textile Technology

Programme Code : TC

Semester : Third

Course Title : Natural Substrates

Max. Marks : 20

22361

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 physical properties of banana fibre.
- b) State the chemical composition of banana fibre.
- c) State two physical properties of wool fibre
- d) Name any four amino acids present in wool fibre.
- e) Name the solvents for dissolution of silk fibre
- f) State two chemical properties of silk fibre

Q.2 Attempt any THREE.

12 Marks

- a) Select banana fibre for relevant application based on its tensile strength
- b) State various application of sisal fibre.
- c) Explain the chemical bonding in wool fibre
- d) Explain morphology of silk fibre with neat sketch
- e) Justify the statement 'banana fibre doesn't loses strength in saline water'
- f) Explain the reason 'though both Wool and Silk are natural polyamide fibres, Wool is elastic in nature and silk is not'.