

BT-3/D-18

33054

TEXTILE FIBRES-I

Paper : TT-203A

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt *five* questions in all, including Question No. 1 which is compulsory. Select *one* question from each unit. All questions carry equal marks.

1. (A) Attempt following short answer questions:

(i) Find the odd one out for fibres

(a) Flexibility

(b) Strength

(c) Length to dia ratio

(d) Polymer

(ii) The fibre which is popularly termed as artificial silk is:

(a) Nylon

(b) Polyester

(c) Linen

(d) Rayon

(iii) Cellulose is made up of

(a) C, H, O

(b) C, H, N

(c) C, H, COOH

(d) C, N, COOH

33054/100/KD/1173

**[P.T.O.
14/12**

(iv) Medulla is associated with

- (a) Cotton
- (b) Silk
- (c) Wool
- (d) Nylon

(v) The strength of which fibre reduces under wet condition?

- (a) Cotton
- (b) Linen
- (c) Viscose
- (d) Polyester

2×5=10

(B) State whether following statements are true or false, Giving Reason and justify the right answer.

- (i) 'Fibre' and 'Filament', both refers to the same meaning.
- (ii) Jute is resistant to strong alkalies.
- (iii) Silk fibres have prominent scales on surface.
- (iv) The moisture regain of wool fibre ranges from 8-12%
- (v) Nylon is not a polyamide fibre

2×5=10

UNIT-I

2. (a) Explain the various sources of textile fibres with examples. 6
- (b) What are the basic requirements of a textile fibre? How these basic requirements are fulfilled in natural and manmade fibres? 8
- (c) What is ginning, grading and bailing for cotton? 6

3. (a) Which properties a fibre should have for commercial success? Explain. 6
- (b) Describe physical and chemical properties of cotton fibre. 10
- (c) Write a brief note on chemical structure of cellulose. 4

UNIT-II

4. What is flax fibre? Where it is found? Describe its cultivation, harvesting and process of preparation of fibre. Describe physical and chemical properties of flax fibres. 20
5. (a) Discuss physical and chemical properties of jute fibres. 8
- (b) What are future prospects of jute? Explain briefly. 6
- (c) Discuss the morphological structure of following fibres : (i) Flax (ii) Jute 6

UNIT-III

6. (a) Explain the following processes for silk
 - (i) Degumming
 - (ii) Weighting of silk
 - (iii) Reeling
 - (iv) Throwing 8
- (b) Explain the different types of silk with brief description. 8
- (c) Silk is less elastic, less chemical resistant, stronger than wool. Why? 4

7. What is composition of raw wool? Explain the complete process for production of wool in detail. Describe the physical and chemical properties of wool fibre. 20

UNIT-IV

8. (a) What are polyamide fibres? List out the physical and chemical properties of polyamide fibres. 10
(b) Discuss physical properties, chemical properties and uses of polyester. 10
9. (a) What are elastomeric fibres? Discuss physical and chemical properties of any elastomeric fibre. 10
(b) What are regenerated fibres? Discuss the physical and chemical properties of viscose fibre. 10
-