17223

16117

3 Hours / 100 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Answer any TEN of the following: **20**

a) Define "Wet spinning".

b) Define "degree of polymerisation". Give an example.

c) Write any two physical properties of cotton.

d) What are oxycellulose? Where are they found?

e) State the names of various varieties of cotton.

f) What do you mean by crystalline region in a fibre? State its importance.

g) Define flax fibres. State their uses.

h) State any four physical properties of lyocell fibre.

i) State any four uses of viscose rayon.

j) State the names of various raw materials required for manufacturing of cellulose acetate.

k) State any two chemical properties of cellulose triacetate.

Marks

l) Draw morphological structure of protein fibre.

m) Define degumming of silk.

n) Write the chemical composition of jute and flax fibre.

2. Answer any FOUR of the following: **16**

a) Explain classification of fibres according to their chemical nature.

b) Describe a method for cultivation of cotton.

c) Name of various additives used in the manufacture of viscose rayon and explain the function of any two additives.

d) Explain homogeneous acetylation of cellulose.

e) Explain the concept of sericulture and reeling.

f) Write any four uses of banana fibres.

3. Answer any FOUR of the following: **16**

a) Explain various requirements for dry spinning.

b) State any four requirements for spinning process.

c) Explain the concept of chemical bonding in cotton.

d) What are HWMF? Explain its physical properties.

e) Explain the various sources of wool fibre. How would you carry out its grading?

f) Describe morphological structure of wool.

4. Answer any FOUR of the following: **16**

a) Explain the concept of mesomorphous region in a fibre. State its importance.

b) Draw morphological structure of cotton. State its two physical properties.

c) Explain manufacturing process of polynosic fibres.

d) State two uses of each of viscose ray on and HWMF.

e) Write two physical and two chemical properties of cellulose acetate.

f) State any four physical properties and four uses of silk.

Marks

5. Answer any FOUR of the following: **16**

a) Describe in general characteristics of amorphous region in a fibre.

b) Explain chemistry of damage to cellulose.

c) Draw only flow chart for the manufacturing process of Lyocell fibre.

d) State the raw materials used for the manufacturing process of cellulose triacetate and write any two physical properties two uses of cellulose acetate.

e) How would you identify silk and wool on the basis of chemical properties? (four points)

f) State any two physical and two chemical properties of wool.

6. Answer any FOUR of the following: **16**

a) How would you carry out extraction of banana fibres?

b) Classify bass fibres. State their importance (any two).

c) Explain two chemical methods to detect oxy-cellulose.

d) Represent structural formula of cellulose. Name the repeat unit present. Is it polar or non polar?

e) Explain essential requirements of wet spinning (any four)

f) Define:

(i) fibre

(ii) filament

(iii) yarn

(iv) fabric