



17347

16117

3 Hours / 100 Marks

Seat No.

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- 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. Abbreviation used, convey **usual** meaning.*
(5) *Assume suitable data, if **necessary**.*
(6) *Use of Non-programmable Electronic Pocket Calculator is **permissible**.*
(7) *Mobile Phone, Pager and any other Electronic Communication devices are **not permissible** in Examination Hall.*

Marks

1. Answer **any five**.

(5×4=20)

- Draw the CS and LS of cotton, wool, polyester and nylon.
- Write any four physical and four chemical properties of cotton.
- Write any four uses (applications) of poly-acrylonitrile and poly-propylene fibres.
- Compare between viscose rayon and acetate rayon (any four points).
- Compare any four properties of HDPE and LDPE.
- What are the objectives of sizing ?
- Describe shearing operation.

2. Answer **any two** :

(2×8=16)

- With a labelled diagram, describe the manufacturing process of viscose rayon. 6
 - Write any four uses of the same. 2
- Write the procedure of determining the SAP value and Iodine value of a softener. 6
 - Give the significance of the same. 2
- With a labelled diagram explain the working and principle of gas singeing machine. 6
 - State precautions to be taken while starting and stopping the machine. 2

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**3. Answer any two :** (2×8=16)

- a) Write down any four physical and four chemical properties each of jute and wool fibres.
- b) Enlist the ingredients of sizing paste. Explain the function of each ingredient.
- c) i) Write the classification of desizing methods. 2
ii) Explain the procedure for the most preferred desizing method. 4
iii) Write its advantages of the method. 2

4. Answer any two : (2×8=16)

- a) Write down any four physical and four chemical properties each of silk and Nylon.
- b) Write typical size formulations for different fibres.
- c) i) Compare batch and continuous method of scouring
ii) Explain purpose of 'desizing'.

5. Answer any two : (2×8=16)

- a) i) With labelled diagram, explain the manufacturing process of polyester fibres.
ii) Write any four uses of the same.
- b) i) Define antistatic agents. Give two examples. 2
ii) Write any four physical and four chemical properties of antistatic agents. 6
- c) i) With a labelled diagram, explain the continuous bleaching process. 6
ii) Write any two merits and demerits of the process. 2

6. Answer any four : (4×4=16)

- a) Write the raw materials and the process of manufacturing polypropylene fibres.
 - b) i) Explain the congealing properties of starch.
ii) Write its significance.
 - c) Explain the method of bleaching cotton using hydrogen peroxide by batch method. Give the recipe for the same.
 - d) i) Name the raw materials used in the manufacturing of PAN.
ii) State physical properties of PAN fibres.
 - e) i) Explain the significance of gelatinisation temperature of starches.
ii) Describe the term 'keeping property' of starches.
 - f) Compare hydrogen peroxide bleaching and sodium hypochlorite bleaching (any four points).
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