



17347

15162

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.
 - (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.

1. Attempt any five of the following :

**Marks
20**

- a) Write any four physical properties and any four chemical properties of cotton fibre.
- b) Give four physical properties of polyester fibre and also write their end uses.
- c) I) Why sizing is essential for single yarns ?
II) Why sizing is not generally carried out for ply yarns ?
- d) Write the process flow chart for pretreatment process of cotton fabric.
- e) Draw morphological structure of :
I) Cotton
II) Wool
- f) Compare natural adhesives and synthetic adhesives (any four points).
- g) Explain the following terms in pretreatments process :
I) Batchwise process
II) Continuous process.

2. Attempt any four :

16

- a) Write any four chemical and physical properties of viscose rayon fibres.
- b) Describe in brief manufacturing process of poly acrylonitrile fiber.
- c) Explain the size formulation for :
I) 100% cotton yarn
II) Polyester / viscose blended yarn
- d) Write the function of the following sizing agents :
I) Weighting agents
II) Preservatives
III) Antistatic agents
IV) Blueing and Brightening agent

P.T.O.



e) Write the functions of :

I) Shearing

II) Desizing

f) Compare yarn singeing and fabric singeing (any four points).

3. Attempt any two :

16

a) Explain in detail method of manufacturing of Acetate Rayon Fibre. Write any two physical and chemical properties.

b) Explain manufacturing process of polyethylene. Compare HDPE and LDPE on two points.

c) Write an explanatory note on "Testing of Adhesives for various parameters".

4. Attempt any two :

16

a) What are the types of bleaching process ? Explain batchwise bleaching process in detail.

b) Explain 04 physical and 04 chemical properties each of :

I) Silk fibre

II) Jute fibre

c) Write three physical and chemical properties and uses each of Nylon 66 and polypropylene fibre.

5. Attempt any two :

16

a) Explain the following testing of softener :

I) SAP value

II) Iodine value

b) What are the types of desizing process ? Explain enzyme desizing and rot-steeping desizing process.

c) Explain bleaching process of 100% cotton fabrics using hydrogen peroxide and sodium hypochlorite.

6. Attempt any two :

16

a) Explain the following :

I) Keeping properties of starch

II) Viscosity of natural adhesive and synthetic adhesives

b) I) Write four physical and four chemical properties of CMC (carboxymethyl cellulose) and Epsom salt.

II) What are the object of scouring ? Also write chemicals used in scouring process. Compare batch wise and continuous scouring (four points).

c) Explain the following :

I) Polycondensation reaction

II) HDPE

III) Melt spinning

IV) Polymer.