

312337

24225

3 Hours / 70 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.

Marks

1. Attempt any FIVE of the following :

10

- (a) List the names of any four mechanical pretreatment processes.
- (b) Explain the objectives of singeing process (any four).
- (c) Explain objectives of sizing process (any four).
- (d) List any four bleaching agents.
- (e) Name the different bleaching methods. Give one example for each.
- (f) Draw a suitable diagram for mercerized and unmercerized cotton fiber.
- (g) Explain objectives of mercerization process (any four).



2. Attempt any THREE of the following : 12

- (a) Explain the gas singeing with neat labelled line diagram.
- (b) Explain role of any four ingredients used in size paste formulation.
- (c) Explain Scouring process for wool fiber with formulation.
- (d) Explain the factors affecting the bleaching of textiles using H_2O_2 .

3. Attempt any THREE of the following : 12

- (a) Give the classification of adhesives with one suitable example for each.
- (b) Justify with reactions, the saponification & emulsification process occurring during scouring of cotton.
- (c) Suggest the formulation for sodium chlorite bleaching of polyester along with mechanism.
- (d) Suggest the process parameters for the mercerization of cotton by using liquid ammonia. Enlist any two advantages of the same.

4. Attempt any THREE of the following : 12

- (a) Describe the method to determine the desizing efficiency for 100% cotton cambric fabric by enzyme method.
- (b) Differentiate between bio-scouring & conventional scouring of cotton (any four points).
- (c) Explain the factors affecting the cotton mercerization process.
- (d) Describe the BAN method to decide the efficiency of mercerization.
- (e) Differentiate between Hot & Cold mercerization process (any four points).

5. Attempt any TWO of the following :**12**

- (a) Describe the mechanism of enzyme desizing of grey cotton fabric.
- (b) Suggest the precautions to take during bleaching of 100% woollen fabric and silk fabric.
- (c) Calculate defect points per 100 square meters by four point system for cotton fabric roll of 200 meters and 1.5 meters wide from the following data :

14 defects upto 3 inches

10 defects between 3 to 6 inches

6 defects between 6 to 9 inches

2 defects over 9 inches

2 hole less than 3 inches size

Comment on the acceptability of roll if the customer's requirement is maximum 28 points per 100 sq. mts.

6. Attempt any TWO of the following :**12**

- (a) Suggest the size paste formulation for sizing of 100% cotton yarn of 20 Ne. & 30's Ne P/C bland yarn.
 - (b) Compare Hydrogen peroxide (H_2O_2) and sodium hypochlorite ($NaOCl$) bleaching methods (any six points).
 - (c) Explain the batch and continuous scouring methods for cotton-polyester blend fabrics.
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