

22460

23124

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 :**

**10**

- (a) Define the term ‘% Add-on’ with one suitable example.
- (b) Enlist the types of anti-microbial finishing agents.
- (c) Give the classification of softener finishes.
- (d) Enlist the catalysts used in resin finishing of 100% cotton.
- (e) Enlist any two advantages of resin finishing.
- (f) Write down the limiting oxygen Index of cotton and wool.
- (g) Give the importance of flame retardant finishing of textiles.



- 2. Attempt any THREE of the following :** **12**
- (a) Describe with neat sketch, the working of seuding machine.
  - (b) Describe with formulation the application procedure of OBA on 100% cotton poplin fabric.
  - (c) Describe with neat sketch, the inclined flammability test method used for evaluating the efficiency of flame retardant finish.
  - (d) With proper formulation, describe the procedure used for applying antimicrobial finish on 100% polyester poplin fabric.
- 3. Attempt any THREE of the following :** **12**
- (a) Describe the 'Pre cure' and 'Post cure' method of applying the Resin finish.
  - (b) Describe with formulation, the application procedure of silicone softener on 100% viscose voile fabric.
  - (c) With proper structures, give the different types of formaldehyde type resins used for 100% cotton fabric.
  - (d) Describe the chemistry and mechanism of OBA's used for finishing of 100% cotton fabrics.
- 4. Attempt any THREE :** **12**
- (a) Describe the procedure for the evaluation of stiff finish of 100% poplin cotton by bending length method.
  - (b) Describe the concept of 'DP' Rating and 'Wash-n-Wear' finishing.
  - (c) Describe any two methods adopted industrially for stripping of OBA's from 100% cotton fabric.
  - (d) Describe the distinct steps involved in the burning cycle of 100% cotton poplin fabric.
  - (e) Describe the evaluation method of antimicrobial finish on given 100% silk fabric by culture method.

**5. Attempt any TWO :****12**

- (a) Suggest a relevant softener for achieving durability upto 10 cycles on 100% cotton poplin fabric with due justification.
- (b) Explain the process of crease removal in 100% cotton poplin fabric by using non-formaldehyde type resins with due justification and mechanism.
- (c) Describe the factors affecting the flame retardancy of any textile substrate with due justification.

**6. Attempt any TWO :****12**

- (a) With a neat labelled diagram of stenter, explain the various textile finishes that can be carried out on a stenter.
- (b) Suggest a relevant formulation & procedure for achieving a Wash-n-Wear finish effect on 100% cotton poplin fabric by using a formaldehyde based DMDHEU resin with proper justification.
- (c) Calculate the amount of water & chemicals required for flame proof finishing 100% cotton fabric for following data :
  - (i) Length – 9000 mts.
  - (ii) GSM – 250
  - (iii) Width – 90 cm
  - (iv) % Expression – 80%
  - (v) Flame proof chemical – 140 spc.

Also find out the percentage add-on on the fabric assuming 100% efficiency.

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