

# 314353

**12526**

**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) 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) State the objectives of heat setting of polyester.
  - b) List out any four dyeing machines for synthetics.
  - c) Enlist different dyeing methods of polyester.
  - d) Enlist different classes of dyes used for dyeing of Nylon.
  - e) List out types of retarders used in acrylic dyeing.
  - f) State the different types of blending.
  - g) State the advantages of blending.

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- 2. Attempt any THREE of the following : 12**
- a) Explain the effect of scouring on dyeing quality of polyester fabric.
  - b) State the advantages and limitations of carrier dyeing.
  - c) Classify acid dyes and state different types of leveling agents.
  - d) Describe dyeing of polyester/cotton blend using disperse/reactive dye combination.
- 3. Attempt any THREE of the following : 12**
- a) Define “Mass colouration” and state its advantages and disadvantages.
  - b) Classify metal complex dyes and state its fastness properties.
  - c) Explain the use of fibre saturation value and dye saturation factor in dyeing of acrylic.
  - d) Describe procedure for dyeing of nylon and its blends by one bath method.
- 4. Attempt any THREE of the following : 12**
- a) State and explain the effects of mercerization on blends.
  - b) Draw a neat sketch of Jet dyeing machine and label the following components.
    - i) Jet
    - ii) Fabric
    - iii) Loading port
    - iv) Dye bath
    - v) Heat Exchanger
  - c) State the advantages and disadvantages of thermosol dyeing of polyesters.
  - d) Enlist the precautions to be taken during dyeing of texturized and microdenier polyester fibres.
  - e) Select the relevant comonomers for better dyeability of acrylic fibre and justify.

- 5. Attempt any TWO of the following :** **12**
- a) Describe the construction and working of Beam dyeing machine for polyester with suitable sketch.
  - b) Identify dyeing defects in polyester dyeing and suggest their remedies.
  - c) Identify defects in dyeing of blends and suggest their remedies.
- 6. Attempt any TWO of the following :** **12**
- a) Apply acid dyes on given nylon fabric with process control parameters with justification.
  - b) Suggest relevant method of dyeing polyester / cotton blend using disperse/reactive combination with its dyeing conditions.
  - c) Elaborate the process of continuous method of dyeing nylon & its blends.
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