

# 22458

**12425**

**03 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 answer with neat sketches wherever necessary.
  - (4) Assume suitable data, if necessary.
  - (5) 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 effect of desizing dye uptake.
  - b) State material to liquor ratio of jigger dyeing machine and winch dyeing machine.
  - c) Suggest chemicals used in vat dyeing.
  - d) State solubility property of sulphur dyes and vat dyes.
  - e) State any two limitations of pigment dyeing.
  - f) Enlist the names of natural dyes.
  - g) Identify the dyes are preferred in the industry to dye wool and silk substrates.

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- 2. Attempt any THREE of the following:** **12**
- a) Define percentage shade and percentage expression with examples.
  - b) Describe extrust dyeing process of reactive hot brand dyes on cotton fabric.
  - c) Explain batch dyeing method of vat dyes on closed jigger dyeing machine.
  - d) Identify any two faults in azole dyed substrates with it's remedies.
- 3. Attempt any THREE of the following:** **12**
- a) Describe with neat sketch the construction and working of package dyeing machine.
  - b) Classify reactive dyes according to their chemical nature.
  - c) Classify vat dyes according to vatting temperature, dyeing temperature concentration of sodium hydroxide and sodium hydro sulphite and use of salt in dyeing.
  - d) Explain method of wool fabric dyeing by using acid dyes.
- 4. Attempt any THREE of the following:** **12**
- a) Define the terms 'Substantivity' and 'Affinity'. Explain its importance in dyeing.
  - b) Suggest the methods to overcome problem of branziness and tendering in sulphur dyeing.
  - c) Compare 'Vat acid' and 'Pigmentation' methods in vat dyeing.
  - d) Describe dyeing process of silk fabric by 'basic' dyes.
  - e) Describe types of mordanting methods in dyeing with natural dyes on cotton fabrics.

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

- a) Describe with neat sketch continuous dyeing range machine with it's advantages and limitations.
- b) Describe with neat sketch pad-dry-pad-steam method of reactive dyeing with it's advantages and limitations.
- c) Describe with neat sketch continuous dyeing method of vat dyes with it's advantages and limitations.

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

- a) Suggest 'partial' and 'full' stripping methods of reactive dyes with recipe.
  - b) Describe dyeing process of cotton fabric with azoic colours. State faults and remedies in azoic dyeing.
  - c) Explain the advantages and limitations of natural dyes for dyeing and printing of textiles.
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