

313341

12425

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 answer 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) List the impurities removed during pretreatments processes of cotton fabric.
 - b) Define percentage expression with one suitable example.
 - c) State any four properties of direct dyes.
 - d) Enlist the after treatments given to direct dyes textile materials.
 - e) Define the term ‘vatting’ in vat dyeing. List the chemicals used.
 - f) Justify why “Azoics” are not called as dyes.
 - g) Enlist any four Natural dyes.

P.T.O.

2. Attempt any THREE of the following: 12

- a) With neat labelled sketch, describe construction and working of winch dyeing machine.
- b) With time temperature profile, elaborate the general dyeing procedure of 'H' brand reactive dyes.
- c) Describe dyeing procedure of cotton fabric on Jigger dyeing machine with sulphur dyes.
- d) State any two problems and suggest their remedies in azoic dyeing.

3. Attempt any THREE of the following: 12

- a) Calculate dye, salt and water required in direct dyeing on Jigger machine for :
 - i) Fabric weight – 110 kg.
 - ii) Salt concentration – 15% (OWF)
 - iii) MLR – 1:4
 - iv) % shade – 3.2%
- b) State any four advantages and four limitations of direct dyes.
- c) Classify vat dyes on the basis of vatting temp, concentration of hydroses caustic and salt required and dyeing temperature.
- d) Describe pre-mordanting, post-mordanting and simultaneous mordanting in dyeing of natural dyes.

4. Attempt any THREE of the following: 12

- a) Define the term percentage exhaustion and explain the parameters which affects percentage exhaustion.
- b) State any two problems and explain its remedies in reactive dyeing.
- c) Explain the functions of chemicals and auxiliaries used in vat and sulphur dyes. Also write their chemical formulae.
- d) Describe dyeing of cotton with azoic colours by batch process.
- e) Describe dyeing procedure of silk with basic dyes with the help of a time temperature profile.

5. Attempt any TWO of the following: 12

- a) With neat labelled sketch, describe the construction and working of continuous dyeing machine.
- b) Describe Pad-dry-pad-steam method of reactive dyeing along with their advantages and limitations. (two each)
- c) Describe dyeing process with vat dyes by vat acid and vat pigmentations method.

6. Attempt any TWO of the following: 12

- a) With neat labelled sketch describe construction, working, advantages and limitations (two each) of Jigger dyeing machine.
 - b) State the reactive systems along with chemical structures in Cold, Hot, HE and Ramazol brand reactive dyes. Comment how these reactive systems will affect dyeing performance.
 - c) State “Bronziness” and “Sulphur Tending”. Describe causes and suggest one remedies each to overcome these problems.
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