

17564

16117

3 Hours / 100 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 :

20

- (a) List the various methods of dyeing of polyester.
- (b) List the retarders used in the acrylic dyeing and also explain the function of retarders.
- (c) State methods used for the dyeing of Nylon. Explain one of them.
- (d) Explain the effect of heat setting on dyeing behaviour of polyester.
- (e) Explain the function of retarders in acrylic dyeing.
- (f) Describe the properties of disperse dyes.
- (g) Describe the criteria for the selection of dyes and levelling agents in Nylon dyeing.

- 2. Attempt any FOUR :** **16**
- (a) Describe in details, the dyeing of polyester by High Temperature High Pressure (HTHP) method.
 - (b) Describe the mechanism of dyeing of Acrylic with cationic dyes.
 - (c) Explain the concept of “Rapid Dyeing Technique” used in the dyeing of polyester.
 - (d) Describe the dyeing process of acrylics with Disperse dyes.
 - (e) Describe the various faults in the dyeing of polyester. Also explain their correction methods and processes.
 - (f) Explain the process of “high and low temperature” dyeing of Nylon.
- 3. Attempt any FOUR :** **16**
- (a) Explain the dyeing process of texturized and micro-denier polyester.
 - (b) Explain the (i) Effect of temperature (ii) Compatibility value on the dyeing of Acrylics.
 - (c) Describe the dyeing process of Nylon with acid dyes.
 - (d) Explain the dyeing method for the dyeing of polyester & cotton blended fabric.
 - (e) Describe the faults and their remedies in the dyeing of Nylon.
 - (f) Describe the effect of pre-treatment and heat-setting on the dyeing behaviour of polyester.
- 4. Attempt any FOUR :** **16**
- (a) Describe various faults occurred during Acrylic dyeing and state the remedies.
 - (b) What are the precautions to be taken when dyeing Nylon with Acid and disperse dyes.
 - (c) Explain the procedure for dyeing of Acrylic/Nylon blended fabric.
 - (d) Explain the process of yarn dyeing in the package form.
 - (e) Describe the faults and their remedies in the dyeing of polyester acrylic blended fabrics.
 - (f) With a neat and well labelled diagram, describe a Jet dyeing machine.

5. Attempt any FOUR :**16**

- (a) State the advantages and limitations of yarn dyeing.
- (b) Explain the construction and working of a H.T.H.P. beam dyeing machine.
- (c) Describe the dyeing of polyester / viscose blended fabric with its faults and the remedies applied for its correction.
- (d) Explain the construction and working of a soft flow dyeing machine.
- (e) Describe the advantages of a Continuous Dyeing Range (CDR). Also mention same of its limitations.
- (f) Explain the dyeing method of dyeing acrylic-wool blended fabric.

6. Attempt any FOUR of the following :**16**

- (a) Explain the method for dyeing of polyester / wool blended fabric.
 - (b) Give brief classification of disperse dyes.
 - (c) State and explain importance of
 - (i) winding angle and
 - (ii) package density in yarn dyeing
 - (d) Explain the advantages and limitations of suff floor dyeing machines.
 - (e) With neat sketch explain the procedure of hank dyeing. Also state limitations of hank dyeing.
 - (f) State advantage and limitations of beam dyeing.
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