

22575

22232

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.

Marks

1. Attempt any FIVE of the following :

10

- (a) State the effect of heat setting on Polyester.
- (b) Enlist the machines used for dyeing of synthetic fibre fabrics.
- (c) State the parameters affecting dyeing quality of polyester.
- (d) Name different methods of dyeing polyester substrate.
- (e) List out the different class of dyes used for nylon dyeing.
- (f) State the function of retarders used in dyeing of acrylics fabrics.
- (g) Enlist any four advantages of blending of fibres.

2. Attempt any THREE of the following :

12

- (a) Explain the effects of mercerization on dyeing quality of the P/C blended fabric.
- (b) Describe the construction of H.T.H.P. dyeing machine for polyester and give one advantage and limitation.



- (c) Explain the mechanism of nylon dyeing with acid dyes.
- (d) Describe the dyeing of acrylic using cationic dyes & retarders.

3. Attempt any THREE of the following :

12

- (a) Heat setting improves the dyeability of the polyester fabric. Justify the statement with appropriate graph.
- (b) Suggest the precautions to be taken while dyeing of texturised polyester.
- (c) Suggest remedies for any two defects occurred in dyeing of nylon using disperse dyes.
- (d) With time - temperature profile show the effect on dyeing of acrylics using cationic dyes without retarders.

4. Attempt any THREE of the following :

12

- (a) With time - temperature profile describe dyeing of polyester by thermosol dyeing method.
- (b) Describe the various colour effects produced due to blending the fibres.
- (c) With relevant process parameters describe dyeing of nylon cotton blended fabric by one bath method.
- (d) Describe dyeing of polyester/cotton blended fabric with disperse/reactive dyes by one bath two stage dyeing technique.
- (e) Define blending and explain the systematic concept of classification of blends with its commercial types.

5. Attempt any TWO of the following : 12

- (a) Describe dyeing of polyester fabric with disperse dyes by carrier dyeing method. Enlist two advantages and two limitations.
- (b) Describe in details, effects of scouring on dyeing of (i) polyester blended (ii) Nylon blended fabric.
- (c) Classify metal complex dyes and explain the mechanism & conditions of dyeing nylon with different metal complex dyes.

6. Attempt any TWO of the following : 12

- (a) Justify the importance of the term “Fibre Saturation Factor” and “Dye Saturation Value” in acrylic dyeing using cationic dyes.
 - (b) Identify the problems associated with shade matching in polyester/cotton blended fabric and write their solutions.
 - (c) Compare the techno commercial aspects of dyeing blends with respect to one bath method & two bath method for P/C blended fabric. Comment on the fastness property also.
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