313341

24225

3 Hours / 70 Marks Seat No. | | | | | | | | |

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 : **10**

a) Enlist any four objectives of mercerisation.

b) Define percentage expression with one suitable example.

c) Justify the name given to direct dyes. Depict the dye fibre association between direct dye and cotton fibre.

d) List out any four after treatments given to direct dyed fabrics.

e) Classify vat dyes based on dyeing temperatures salt and alkali concentration.

f) Enlist the methods and conditions employed in the dissolution of naphthols.

g) Recite the different sources of natural dyes.

Marks

2. Attempt any THREE of the following : **12**

a) Describe the scouring process of 100% cotton fabric. Also elaborate its effects on the dyeability of cotton.

b) Explain the after treatments given to direct dyed fabric with reference to hue and fastness property.

c) Describe the sulphur dyeing procedure of 100% cotton poplin with the help of a labelled dyeing ramp.

d) Elaborate the operating procedure of a jigger dyeing machine with the help of a neat labelled sketch.

3. Attempt any THREE of the following : **12**

a) 555 kg cotton is dyed for 2.5% shade by maintaining MLR of 1:8. Concentration of salt and alkali required are 40 gpl and 20 gpl. Find out the amount of dye solution, salt solution, alkali solution and water required if the stock concentration of dye, salt and alkali are 5%, 20% and 10% respectively.

b) Differentiate between batch method and continuous method of dyeing (any four points).

c) Elaborate with neat labelled dyeing profile, procedure of hot brand reactive dye on 100% viscose fabric

d) Discuss with proper reactions and steps, the Leuco-vat method of dyeing cellulosic fabric using IN class vat dye.

4. Attempt any THREE of the following : **12**

a) Discuss the quality parameters evaluated after the mercerisation process of 100% cotton poplin fabric.

b) Elaborate the dyeing method of cold brand reactive dyes on cellulosic fabric by semi-continuous method.

c) Differentiate between vat acid and vat pigment method (any four points).

d) Outline the problems w.r.t. environment, observed in the application of azoic colours on cellulosic fabrics.

e) Describe with a labelled dyeing profile, application of marigold natural dye on cotton by pre-mordating method.

Marks

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

a) Describe with a neat labelled sketch, the procedure to operate continuous dyeing machine.

b) Analyse the reactive systems present in different sub-classes of reactive dyes by drawing the structures of reactive groups. Also comment on the dyeing temperatures.

c) Outline the terms "Bronziness" and "Sulphur Tendering" used in sulphur dyed goods. Elaborate the reasons and suggest one remedy for each.

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

a) Compare the auxiliarity used, vatting temperature and dyeing temperatures employed in the dyeing of different sub-classes of vat dyes. Enlist any four properties of vat dyes.

b) Describe the district steps involved in the application of azoic colours on 100% cellulosic fabric.

c) Elaborate the factors affecting the dyeability of wool using acid dyes.
