

22458

11920

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.
 - (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) Define the term % Exhaustion with one suitable example.
 - b) What is degumming's effect on dyeing of silk.
 - c) What are grey scales.
 - d) Why are direct dyes so called
 - e) Enlist the chemicals used in the dissolution of sulphur dyes. Give its chemical formulae.
 - f) Write any two chemicals used in the oxidation of vat dyes.
 - g) Give any four examples of natural dyes derived from living organisms.

P.T.O.

- 2. Attempt any THREE of the following: 12**
- a) Describe the effect of exhausting agent on the dyeing of 100% viscose using direct dyes. Also comment on the costing of process.
 - b) Describe the application of vat dyes on 100 % cotton poplin fabric by vat pigmentation method.
 - c) Describe the different methods of development of bases in the application of azoic colours on 100% viscose fabric.
 - d) Describe the procedure of application of basic dyes on 100% silk fabric by exhaust method.
- 3. Attempt any THREE of the following: 12**
- a) Describe the working principle of a winch dyeing machine with the help of a neat labelled sketch.
 - b) Describe the reasons for giving the various after treatment given to direct dyed 100% cotton fabric. Also enlist the various after treatments.
 - c) Describe the different methods of dissolution of naphthols in the application of azoic colour on 100% viscose fabrics.
 - d) Identify problems, their causes and remedies in application of natural dyes on 100% cotton.
- 4. Attempt any THREE of the following: 12**
- a) Draw the structure of reactive systems present in different class of reactive dyes based on dyeing temperature.
 - b) Describe the procedure and distinct steps involved in the dyeing of 100% cotton using IN class vat dyes.
 - c) Describe a relevant continuous method of application of azoic colours on 100% cotton fabric.
 - d) Describe the exhaust method of applying milling acid dyes on 100% wool fabric.
 - e) Compare properties of natural dyes with synthetic dyes.

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

- a) Calculate the quantity of dye and water required to dye 750 kg of fabric for 2.1% shade on jigger dyeing machine with MLR of 1:8 and 90% exhaustion. If the same matching is obtained on winch dyeing machine with MLR of 1:24 and % exhaustion of 81%, find out the % shade dyeing on winch dyeing machine.
- b) Analyse any two faults that occur in dyeing of 100% poplin cotton fabric using sulphur dyes. Also give a detailed remedy for the same.
- c) Suggest the rectification required for any two stated faults observed in the dyeing of 100% wool using leveling acid dyes by exhaust method.

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

- a) Analyse the effect of batch wise and continuous method of application of HE brand reactive dyes on 100% cotton poplin fabric.
 - b) Describe and justify with neat labelled sketch, the relevant pigment application method for 100% chiffon polyester fabric.
 - c) Select a relevant method of applying a dye on 100% silk fabric to achieve a brilliant shade. Also mention the procedure involved.
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