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15162

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) With suitable example, define and explain the terms ‘percentage shade’ and ‘percentage expression’.
 - b) Why are direct dyes so called? Write a detailed classification of direct dyes.
 - c) Draw the structure of different reactive groups present in different class of reactive dyes.
 - d) Enlist and explain the distinct steps involved in the application of sulphur dyes.
 - e) Write a detailed note on the fastness properties of sulphur dyes.

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- f) What are the different after treatments given to azoic coloured fabrics.
- g) What are metal complex dyes? Write its classification and comment on the fastness properties.

2. Attempt any TWO of the following: 16

- a) Explain the terms and 'sequestering agents', 'Exhausting agents', 'Dispersing agents' and 'Retarding agents' in textile wet processing.
- b) What are solubilised vat dyes? Explain the different methods of application of solubilised vat dyes?
- c) Give the procedure of dyeing of cotton and silk with basic dyes? Compare the procedures.

3. Attempt any TWO of the following: 16

- a) Explain the exhaust, pad-batch and continuous dyeing techniques of dyeing of cotton using reactive dyes.
- b) Explain the different methods of naphtholation? Also explain the diazotisation and coupling process.
- c) What are Acid dyes? Write down their classification and compare its various parameters for dyeing process.

4. Attempt any TWO of the following: 16

- a) Explain in detail the general mechanism of dyeing of textiles? Also explain the terms 'Adsorption', 'Absorption' and 'Fixation'.
- b) Enlist and explain the different after treatments given to direct dyed cellulose.
- c) Write down the detailed classification of vat dyes? Explain the distinct steps involved in the application of vat dyes for cellulose.

- 5. Attempt any TWO of the following:** **16**
- a) Write down the dyeing procedure of vinyl sulphur class and high exhaust class of reactive dyes for cotton fabrics.
 - b) Write a note on the classification of natural dyes? Give the application procedure and method on cellulosic material.
 - c) With a neat labelled diagram, explain the construction and working of jigger dyeing machine? Enlist two advantages and two limitations of the same.
- 6. Attempt any TWO of the following:** **16**
- a) Explain the different methods of application of vat dyes in detail.
 - b) Enlist and explain the various faults encountered in sulphur dyeing? Also mention its remedies.
 - c) With a neat labelled diagram, explain the semi continuous and continuous dyeing machine with their advantages and limitations.
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