

17467

21415

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) What are sequestering agents? Give its classification with one suitable example each. Also write down the desirable properties.
 - b) If 840 kg fabric is dyed for 2.3% shade with MLR of 1:12. If the required concentration of salt is 20 gpl; find the amount of water, dye solution, salt solution and total dyeing solution required for the given stock concentration of: dye = 10% and salt = 20%.
 - c) Explain the effect of electrolyte and MLR during the dyeing of direct dyes on cotton.
 - d) Write a note on the properties of sulphur dyes.
 - e) Explain the tendering of cotton fabric with dyed with sulphur block dyes.

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- f) Write a note on the fastness properties of disperse dyes.
- g) Write the chemical properties and mechanism of azoic colour for textiles.

2. Attempt any TWO of the following: 16

- a) Explain in detail, the mechanism of dyeing textiles. Also justify the use of exhausting agents and retarding agents in dyeing of textiles.
- b) Write down the classification of reactive dyes? Write down the reactive groups present in the dyes and also draw its chemical structure.
- c) What are basic dyes? Write down the mechanism and procedure of dyeing basic dyes on cellulose? Also comment on the fastness properties.

3. Attempt any TWO of the following: 16

- a) Explain the various after treatments carried out on direct dyed fabrics.
- b) What are solubilised vat dyes? Explain the steps involved and the procedure in dyeing of solubilised vat dyes.
- c) Write a detailed note on the shop floor methods of application of azoic colours on cotton. Also comment on the after treatments.

4. Attempt any TWO of the following: 16

- a) Explain in detail the different dyeing techniques of reactive dyes.
- b) What are vat dyes? Write down the properties of vat dyes? Write down the classification of vat dyes from vatting temp, dyeing temp, concⁿ of caustic and alkali point of view.
- c) With a neat labelled diagram explain the continuous dyeing range. Write down its advantages and limitations.

5. Attempt any TWO of the following: 16

- a) Explain the term 'Dyeing'. With reaction, explain the dye fibre interaction in case of reactive dyes and vat dyes. Comment on the machineries used in dyeing of both cases.
- b) What are sulphur dyes? Comment on the fastness properties. Give its classification and application procedure.
- c) Write a detailed note on the metal complex dyes. Also comment on its fastness properties.

6. Attempt any TWO of the following: 16

- a) Write a detailed note on the different methods of application of vat dyes.
 - b) What are natural dyes? Write down its classification and properties. Write the application procedure also.
 - c) With a neat labelled diagram explain the construction and working of hank dyeing machine and write down its advantages and limitations.
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