

17467

21314

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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. Answer any **FIVE** of the following:

20

- a) Define the terms :
  - i) affinity
  - ii) percentage shade
- b) Name the exhausting agents and levelling agents. Write their role in dyeing.
- c) What are direct dyes? Explain the effect of electrolytes and temperature in direct dyeing.
- d) What are reactive dyes? Give their classification.
- e) Explain the chemical reaction taking place in reactive dyeing of cellulose.
- f) What are vat dyes? Classify vat dyes based on their application.
- g) State the advantages and disadvantages of jigger dyeing machine.

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- 2. Answer any TWO of the following:** **16**
- a) Explain the mechanism of dyeing w.r.t. adsorption and fixation.
  - b) i) Explain dyeing of cotton using direct dyes.  
ii) List out various after treatments and state its importance in direct dyeing.
  - c) i) Explain method of dyeing cellulosics using hot brand reactive dyes.  
ii) State faults and remedies of reactive dyeing.
- 3. Answer any TWO of the following:** **16**
- a) Explain the application steps of vat dyes. Write their importance.
  - b) i) With a labelled diagram, explain working of winch dyeing machine **5**  
ii) State its advantages and disadvantages. **3**
  - c) i) Classify sulphur dyes. **2**  
ii) State properties of sulphur dyes. **2**  
iii) Describe steps involved in sulphur dyeing. **4**
- 4. Answer any TWO of the following:** **16**
- a) Explain -
    - i) Pigmentation
    - ii) Vat acid method of vat dyeing
  - b) i) Explain mechanism of dyeing cellulosic fibres using basic dyes.  
ii) Describe a method of dyeing cellulosic fibres with basic dyes.
  - c) i) Draw a labelled diagram of package dyeing machine. State its advantages and disadvantages.  
ii) Define and explain the term : “percentage expression”.

**5. Answer any TWO of the following:****16**

- a) i) Give properties of solubalised vat dyes.  
ii) Explain a method of dyeing cotton with solubalised vat dye.
- b) i) State and explain fasteners properties of sulphur dyes.  
ii) Write two faults and suggests their remedies in relation to sulphur dyeing.
- c) i) What are natural dyes? Classify them giving examples  
ii) Explain method of dyeing cotton with natural dyes.

**6. Answer any TWO of the following:****16**

- a) What are azoics? Explain the steps of -
    - i) naphtholation
    - ii) diazotisation and
    - iii) coupling in azoic dyeing
  - b) i) State the advantages and disadvantages of azoic colours.  
ii) What are acid dyes? Classify them giving examples.
  - c) i) What are metal complex dyes? Classify them.  
ii) Describe dyeing of wool with metal complex dyes.
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