

17343

16117

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

**Marks****1. Answer any FIVE :****20**

- (a) What are the differences between dye and colour ?
- (b) Explain the terms : “hue” and “chroma”.
- (c) Define “chromophore”. Name the types of chromophores.
- (d) What are auxochrome ? Name the types of auxochromes.
- (e) Explain classification of dyes based on method of application.
- (f) What is colour index number ? Give its significance.
- (g) Write the preparation of H-acid. Where is it used ?

**2. Answer any TWO :****16**

- (a) (i) Explain the importance of intermediates in dyestuff industry.
- (ii) Explain the need for preparation of synthetic dyes.
- (b) (i) What are reactive dyes ?
- (ii) Describe preparation of hot brand reactive dye.
- (c) Explain distinguishing features between dyes and pigments.

- 3. Answer any TWO : 16**
- (a) Explain :
    - (i) Destructive distillation of coal tar.
    - (ii) Use of the byproducts obtained during this process in dyestuff manufacturing.
  - (b) Describe modern theory of colour and chemical constitution.
  - (c) Explain :
    - (i) Relation between chemical structure and fastness of a dye.
    - (ii) Relation between chemical structure and substantivity of dye.
- 4. Answer any TWO : 16**
- (a)
    - (i) Explain additive and subtractive colour mixing.
    - (ii) Describe bathochromic and hypsochromic shift.
  - (b) With reactions and reaction conditions, give the preparations of :
    - (i) naphthionic acid      (ii) sulphanilic acid
  - (c)
    - (i) Explain the nomenclature of dyes.
    - (ii) Explain the classification of pigments and its application methods.
- 5. Answer any TWO : 16**
- (a) With reactions give the preparation of :
    - (i) nitro dyes      (ii) azo dyes
  - (b) What are DPM and TPM dyes ? Write their preparations.
  - (c) Describe the classification of dyes based on their chemical structure with one example of each class.
- 6. Answer any TWO : 16**
- (a)
    - (i) Describe the mechanism of dyeing. **6**
    - (ii) Draw chemical structure of metanilic acid. Where is it used ? **2**
  - (b)
    - (i) What are the factors governing absorption of light ?
    - (ii) Write the preparation of 'Peri' acid and state its use.
  - (c)
    - (i) What are HE and ME brand reactive dyes ?
    - (ii) Give the preparation of HE brand reactive dyes.
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