

17343

16172

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) Figures to the right indicate full marks.
(4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
(5) Abbreviations used convey usual meaning.

Marks

1. **Attempt any FIVE of the following:** **20**
- a) Differentiate between: dye and colour.
 - b) Explain with an example, meaning of ‘dye fixation’.
 - c) State factors affecting absorption of light.
 - d) (i) Give the various methods of application of dyes.
(ii) Explain reactive dyes.
 - e) Compare pigments and dyes.
 - f) Describe preparation of a nitro-dye.
 - g) What are ‘ME’ brand reactive dyes? How are they prepared?
2. **Attempt any TWO of the following:** **16**
- a) (i) Define: **2**
 - 1) hue,
 - 2) chroma
 - (ii) Explain additive and subtractive colour mixing. **6**

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- b) Classify (with examples) dyes, based on their chemical structure.
- c) (i) Write only reactions and reaction conditions involved in preparation of naphthionic acid. Name two dyes prepared from it. 6
- (ii) Write structural formula of sulphonilic acid. 2
Name two dyes prepared from it.
- 3. Attempt any TWO of the following: 16**
- a) (i) Explain importance of intermediates in dyestuff industry.
(ii) Comment on 'status' of Indian dyestuff industry.
- b) Explain relation between chemical structure and:
(i) fastners properties of dyes.
(ii) substantivity of dyes.
- c) Explain classification of pigments, giving examples.
- 4. Attempt any TWO of the following: 16**
- a) (i) Describe 'bathochromic' – and 'hypsochromic' – effect, giving examples.
(ii) Define:
1) auxochrome,
2) chromophore
Identify the following as auxochromes or chromophores:
– OH, –NO₂, –SO₃Na, — C = S
|
- b) Define 'colour index'. Explain its importance.
- c) (i) Explain with reaction, chemistry of 'diazotisation'.
State precautions to be taken. 6
- (ii) Name and write structural formula of two 'coupling agents'. 2

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

- a) (i) Explain 'electromagnetic radiation'. Which of the following radiation, is associated with higher energy? IR – or UV –.
- (ii) Explain the terms:
- 1) reflection of light,
 - 2) transmission of light
- b) Write chemical name of:
- (i) – C – acid
 - (ii) metanilic acid

Indicate with reactions and reaction condition only, method of their preparation.

- c) Describe preparation of 'hot brand' reactive dye.

6. Attempt any FOUR of the following:**16**

- a) Describe 'destructive distillation' of coal-tar.
 - b) Explain mechanism of dyeing by absorption.
 - c) Explain nomenclature of dyes.
 - d) Write chemical name of 'J-acid'. Describe with reactions, its preparation.
 - e) Describe preparation of any one vat dye.
 - f) Compare cold brand reactive dyes and hot brand reactive dyes.
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