

17343

11819

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) Assume suitable data, if necessary.
(5) Abbreviations used convey usual meaning.

Marks

- 1. Answer any FIVE of the following:** **20**
- a) Describe importance of intermediates in dyestuff industry.
 - b) Define :
 - (i) colour
 - (ii) chroma
 - (iii) hue
 - (iv) value
 - c) State factors governing absorption of light.
 - d) Name methods of application of dyes.
 - e) Write chemical name and structural formula of H-acid and J-acid.
 - f) Explain difference(s) between HE brand - and ME brand - reactive dyes.
 - g) Write classification of dyes based on method of application.

P.T.O.

- 2. Answer any TWO of the following:** **16**
- a) (i) Define coal-tar.
 - (ii) Describe destructive distillation of coal-tar.
 - b) (i) Write meaning of 'substantivity' of dyes.
 - (ii) Explain relation between chemical structure and substantivity of dyes.
 - c) Explain with reactions, chemistry of:
 - (i) diazotisation
 - (ii) coupling
- 3. Answer any TWO of the following:** **16**
- a) Describe :
 - (i) reflection of light
 - (ii) transmission of light
 - b) Explain classification of dyes, based on the structure.
 - c) (i) Describe with reactions and reaction conditions, preparation of naphthionic acid. 6
 - (ii) State uses of this intermediate. 2
- 4. Answer any TWO of the following:** **16**
- a) Explain relationship between chemical structure and properties of dyes.
 - b) Describe classification of 'polycyclic pigments', giving examples.
 - c) (i) Describe with reaction(s) and reaction conditions, preparation of a anthraquinone dye. 7
 - (ii) Indicate 'chromophor' present. 1

	Marks
5. Answer any <u>TWO</u> of the following:	16
a) (i) Define a 'dye'.	1
(ii) Write status of any two major dye manufacturing, Indian companies, as regards, their : location, product range, annual turn over, export if any.	7
b) Explain with examples, 'nomenclature' of dyes.	
c) (i) What are 'reactive dyes?'	1
(ii) Outline with reactions and reaction conditions preparation of a 'cold brand' – reactive dye.	7
6. Answer any <u>FOUR</u> of the following:	16
a) Describe mechanism of dyeing, through adsorption.	
b) Describe 'bathochromic' effect.	
c) State structural features of a dye, which gives good light fastness.	
d) Write general properties of pigments, which distinguishes them from dyes.	
e) Write only reactions and reaction conditions used in the preparation of metanilic acid.	
f) Write structural formula of a nitro-dye. Name raw materials, used in its preparation. Name the chromophor present.	
