

17343

21314

3 Hours / 100 Marks

Seat No.

--	--	--	--	--	--	--	--

- Instructions* – (1) All Questions are *Compulsory*.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) Attempt any SIX of the following: 12
- i) Enlist various products obtained due to destructive distillation of coal tar.
 - ii) Define auxochrome and mention its types.
 - iii) Define hue value and chroma.
 - iv) Distinguish between dyes and pigments.
 - v) Classify dyes into different categories. (Write only the names)
 - vi) Write the conditions essential for preparation of metanilic acid.
 - vii) What are reactive dyes ? Why are they called as reactive ?
 - viii) Write the structure of any azo dye.

P.T.O.

b) Attempt any TWO of the following:**8**

- i) Define bathochromes and hypsochrome with suitable examples.
- ii) Explain classification of dyes based on method of application.
- iii) Explain the method of preparation of vat dye from anthraquinone derivative.

2. Attempt any FOUR of following:**16**

- a) Explain destructive distillation of coal tar.
- b) Explain the relationship between chemical structure and substantivity.
- c) Explain how colour index helps in dyeing.
- d) Explain the method of preparation of H-acid. State its importance in dye industry (any two).
- e) Explain why TPM dyes are darker in shades ?
- f) State and explain any four factors governing absorption of light.

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

- a) What are synthetic dyes ? State any four need for preparation of synthetic dyes.
- b) "Fastness property of dye depends on its chemical structure". Justify.
- c) State and explain the classification of pigments.
- d) Explain any four rules for nomenclature of dyes.
- e) Define 'J'-acid ? How will you prepare it in laboratory ?
- f) What are nitro dyes ? Give the structure and preparation of any one nitro dye.

4. Attempt any FOUR of the following: 16

- a) Discuss the use of product obtained in destructive distillation of coal tar.
- b) Describe electromagnetic radiation and visible spectrum.
- c) Distinguish between colour and dye.
- d) Draw the structure of γ -acid. Write the method of preparation of γ -acid.
- e) What are the structural differences between cold brand and hot brand dyes.
- f) What are azo dyes ? Give the structure and preparation of any one azo dye.

5. Attempt any FOUR of the following: 16

- a) Describe the mechanism of dyeing in brief.
- b) Describe chromophore and its types.
- c) Explain modern theory of colour and chemical constitution.
- d) Explain classification of dyes according to the chemical structure.
- e) What are pigments ? Explain classification of pigments with examples.
- f) Differentiate between sulphonilic and metanilic acid. Explain with drawing this structure.

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

- a) What is contained in the middle of the fractional distillation of coal tar.
 - b) Describe the terms: additive and subtractive colour mixing.
 - c) Explain red shift and blue shift with suitable graph.
 - d) How will you identify structure of nitro and azo dyes ?
 - e) Describe synthesis of cold band reactive dye in laboratory.
 - f) Write the structure of DPM and Vat dyes. Give one example of each category. Which one is more suitable for cotton fabrics and why ?
-

17343

21314

3 Hours / 100 Marks
