

17343

21718

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) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (8) Use of Steam tables, logarithmic, Mollier's chart is permitted.

Marks

- 1. Attempt any FIVE of the following:** **20**
- a) Write a note on the synthetic dyes.
 - b) Explain the mechanism of dyeing in detail.
 - c) Define the terms 'Hue' and 'Chroma' with two examples each.
 - d) Define the term 'Wave length' with one example and write a note on the visible spectrum of electromagnetic radiations.
 - e) Differentiate between dyes and pigments. (four points)
 - f) Give the preparation of any one into class dye.
 - g) Write a note on the selection of intermediates for preparation of dyes.

P.T.O.

- 2. Attempt any TWO of the following:** **16**
- a) Explain the Additive colour theory and subtractive colour theory with a neat diagram.
 - b) Describe the preparation method and uses of H-acid and J-acid.
 - c) Write the preparation of any one DPM and one TPM class of dyes and comment on the application class of these dyes.
- 3. Attempt any TWO of the following:** **16**
- a) Write a detailed note on the importance of intermediates in dye stuff industry. Comment on cracking of petroleum.
 - b) write a note on the classification of dyes based on method of application.
 - c) Give the preparation of any two bis-azo dyes.
- 4. Attempt any TWO of the following:** **16**
- a) Explain in detail, the modern theory of colour and chemical constitution.
 - b) What are pigments? Give the classification of pigments? Also write the preparation of any one pigment.
 - c) Give the preparation of one cold brand reactive dye and one HE brand reactive dye.
- 5. Attempt any TWO of the following:** **16**
- a) Write a detailed note on the destructive distillation of coal tar? Also write the details method of separating coal tar primaries and secondaries.
 - b) Write a detailed note on the interaction of radiation with matter. Explain the related terms with a neat diagram.
 - c) Explain in detail, colour Index? Give its significance in textile industry? Also elaborate on the nomenclature of dyes listed in the colour index.

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

- a) Enlist the factors which are responsible for absorption of light. Also write a note on the relation between chemical structure and fastness properties of dye as well as substantivity of dyes.
 - b) Write a detailed note on the classification of dyes based on chemical structure? Comment on the most prevalent class of dye.
 - c) Give the preparation and application of peri acid and gamma acid.
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