22363

21819

3 Hours / 70 Marks Seat No. | | | | | | | | |

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.

Marks

1. Attempt any FIVE : **10**

(a) List the characteristics of an aromatic compound.

(b) Define : (i) Nitration, (ii) Sulphonation

(c) Choose a compound from following list required for preparation of benzene. Write structure of the same.

(i) n-hexane, (ii) Acetylene, (iii) Phenol

(d) Draw the structure of :

(i) Nitrous Acid, (ii) Nitrobenzene

(e) State two chemical properties of naphthalene.

(f) Define the terms :

(i) Fastness, (ii) Affinity

(g) Define the terms :

(i) Chromogen, (ii) Auxochrome

2. Attempt any THREE : **12**

(a) Write characteristics of Aliphatic compound based on their Chemical structure.

(b) Explain preparation of Tolune by Wurtz – Fittig Chemical reaction.

(c) Give a method of preparation of aniline from nitrobenzene with relevant chemical reaction.

(d) Explain a method for preparation of Naphthionic acid with sketches and relevant Chemical reaction.

3. Attempt any THREE : **12**

(a) Classify dyes based on their Chemical structure.

(b) Explain the significance of Colour Index.

(c) Describe preparation of Benzene Diazzonium Chloride with relevant Chemical reaction.

(d) Explain Witt's chromophore – Auxochrome theory on the basis of Chemical composition and light.

4. Attempt any THREE : **12**

(a) Describe the method of preparing toluene from coaltar with relevant chemical reaction.

(b) Explain sulfonation of aniline with chemical reaction.

(c) Apply the Oxidation reaction on the following :

(i) Naphthalene

(ii) Anthracene

(d) Show preparation of H-acid with relevant chemical reaction.

(e) Describe the relation between fastness and structure of the dye.

5. Attempt any TWO : **12**

(a) Choose the set of reactions to obtain benzene from n-hexane. Name the reactants, reagents and products formed in each reaction.

(b) Select the procedure for identification of Direct dye and azoic dye on cotton fibre.

(c) Suggest the modification in the structure of azo disperse dye to improve its fastness properties.

6. Attempt any TWO : **12**

(a) Apply Dow's process to synthesize phenol with chemical reaction.

(b) Select the procedure for identification of Acid dye and Reactive dye on cotton fibre.

(c) Suggest the Chemical reactions for synthesis of azo dye using beta naphthol as a base.
