

Scheme – I

Sample Question Paper

Programme Name : Diploma in Textile Technology
Programme Code : TC
Semester : Third
Course Title : Chemistry of Aromatic Compounds and Dyes
Marks : 70

22363

Time: 3 Hrs.

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1) Attempt any FIVE of the following.

10 Marks

- a) Define “Aromatic compounds” with two examples.
- b) List the reagents required for nitration, sulphonation of aromatic compounds.
- c) Choose an aliphatic compound from following list required for preparation of benzene. Write structure of the same.
1) Ethylene 2) Acetylene 3) Ethane
- d) Draw the structure of 1) aniline 2) benzene diazonium chloride.
- e) Draw the structure of 1) Naphthalene 2) Anthracene
- f) Classify dyes based on their application method.
- g) Define the terms: “chromophore “and “auxochrome”.

Q.2) Attempt any THREE of the following.

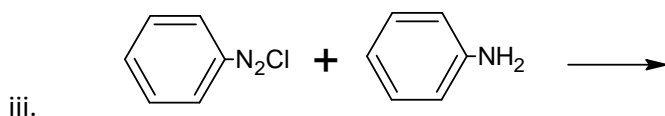
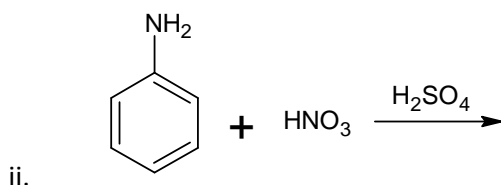
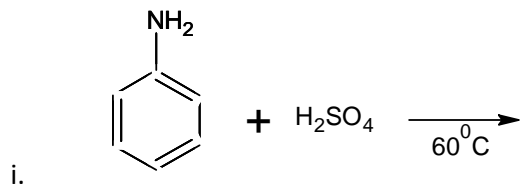
12 Marks

- a) Distinguish between aliphatic and aromatic compounds properties based on their physical and chemical properties.
- b) Explain the method of preparing phenol from chlorobenzene with sketches and relevant chemical reaction.
- c) Explain preparation of aniline with sketches and relevant chemical reactions.
- d) Describe the method of preparing H- acid with relevant chemical reactions.

Q.3) Attempt any THREE of the following.

12 Marks

- a) Differentiate between dyes and pigments based on solubility and chemical bonding.
- b) Classify the pigments based on chemical composition.
- c) Complete the following reactions and identify reactants, reagents and products.



d) Describe the role of colour index in nomenclature of dyes.

Q.4) Attempt any THREE of the following.

12 Marks

- Use sulphonation and nitration reaction of aniline to synthesize the following products.
 - Metanilic acid & Sulphanilic acid
 - o – Nitro aniline & p – Nitro aniline.
- Explain Witt's Chromophore – Auxochrome theory on the basis of chemical composition and light.
- Apply the nitration reaction on the following:
 - Naphthalene
 - Anthracene.
- Show preparation of Schaffer's acid with relevant chemical reactions.
- Describe the process of coal tar distillation.

Q.5) Attempt any TWO of the following.

12 Marks

- Choose the set of reactions to obtain benzene from n- heptane. Name the reactants, reagents and products formed in each reaction.
- Select the procedure for identification of basic dye and vat dye on cotton fibre.
- Suggest the chemical reactions for synthesis of azo dye using beta naphthol as a base.

Q.6) Attempt any TWO of the following.

12 Marks

- Select the procedure for identification of reactive dye and azoic dye on cotton fibre.
- Apply bromination reaction on phenol to get the product under the different conditions of temperature and reagents.
- Suggest the modification in the structure of azo disperse dye to improve its fastness properties.

Scheme – I

Sample Test Paper - I

Programme Name : Diploma in Textile Technology
Programme Code : TC
Semester : Third
Course Title : Chemistry of Aromatic Compounds and Dyes
Marks : 20

22363

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

08 Marks

- a) List the organic compounds obtained during coal tar distillation.
- b) Draw a structures of (i) toluene and (ii) xylene.
- c) List characteristics of aromatic compounds.
- d) Write any two industrial applications of phenol.
- e) Name the reagents used in diazotization reaction.
- f) Define the terms (i) Nitration and (ii) Sulphonation.

Q.2 Attempt any THREE.

12 Marks

- a) Describe method of preparing toluene using Friedel –Craft’s reaction.
- b) Explain the method of preparing phenol from chlorobenzene with relevant chemical reaction.
- c) Compound ‘A’ undergoes reduction in presence of acidic medium to form aniline. Identify A. Show the formation of aniline with relevant chemical reaction.
- d) An organic compound ‘B’ form metanilic acid on sulphonation. Identify the compound ‘B. Suggest a method to form para substituted product containing same functional groups as that of metanilic acid.

Sample Test Paper - II

Programme Name : Diploma in Textile Technology

Programme Code : TC

Semester : Third

Course Title : Chemistry of Aromatic Compounds and Dyes

Marks : 20

22363

Time: 1 Hour

Instructions:

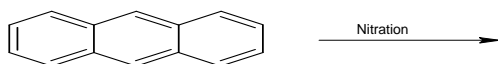
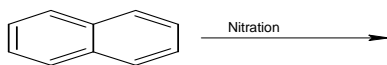
- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.**08 Marks**

- a) Draw the structure of J acid
- b) Name the reagents required for preparation of H- acid
- c) List four general characteristics of an ideal dye.
- d) Name chromophor present in azo dyes.
- e) List the different type of fastness properties of dyes.
- f) Define the term 'fastness' of a dye.

Q.2 Attempt any THREE.**12 Marks**

- a) Predict the products of following reaction. Identify reactant, reagents and products formed.



- b) Describe the relation between colour and constitution of a dye.
- c) Select the procedure for identification of direct dye and acid dye on fibre.
- d) Classify the dyes based on chemical structure.