22363

24225

3 Hours / 70 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. Attempt any FIVE : **10**

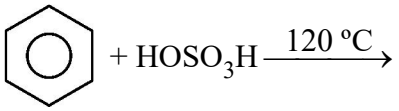
(a) Draw the structure of following aromatic compounds :

(i) Toluene

(ii) p. xylene

(b) State two applications of benzene sulphonic acid in textile industry.

(c) Predict the product of following reaction and write reaction for the same :

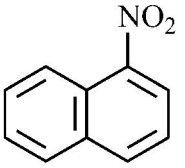


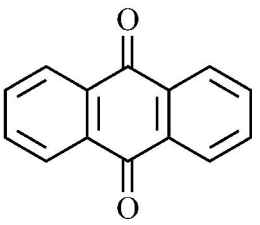
(d) Draw the structure of :

(i) Aniline

(ii) N-methyl aniline

(e) Identify the name of following compounds :





(f) Define the term colour index with suitable example.

(g) Define the term chromophore with suitable example.

2. Attempt any THREE : **12**

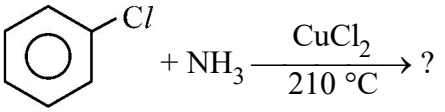
(a) Explain the method of separating the aromatic compounds from light oil.

(b) Explain following chemical properties of nitrobenzene with suitable chemical reaction :

(i) Reduction in presence of Sn/HCl

(ii) Fusing with KOH

(c) Predict the product of following reaction and write applications of product :



(d) State industrial applications of Nitrobenzene and Phenols.

3. Attempt any THREE : **12**

(a) Classify chromophore on the basis of their position in dye structure with suitable example.

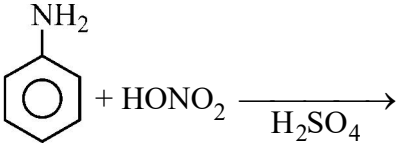
(b) Distinguish between dyes and pigment with suitable example.

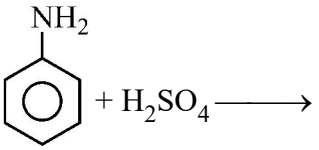
(c) Certain aromatic compound is pale yellow but it rapidly becomes dark brown on exposure to air. Its boiling point is 184.4 ºC. Identify the same. Show its diazotization.

(d) Explain the characteristics of good dye.

4. Attempt any THREE : **12**

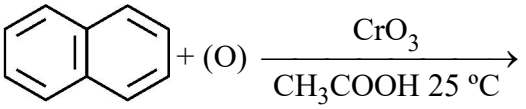
(a) Predict the product of following reaction and complete the reaction :

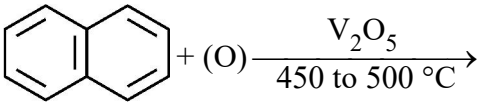




(b) Explain the factors governing absorption of light by the organic compound present in dye molecule.

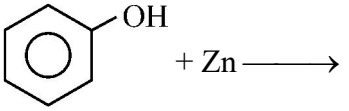
(c) Complete the following reaction and predict the product :

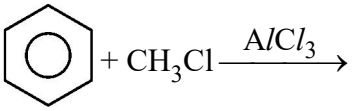




(d) Compare Anthracene and Naphthalene by their properties.

(e) Predict the product of following reaction and complete the same :

(i) 

(ii) 

5. Attempt any TWO : **12**

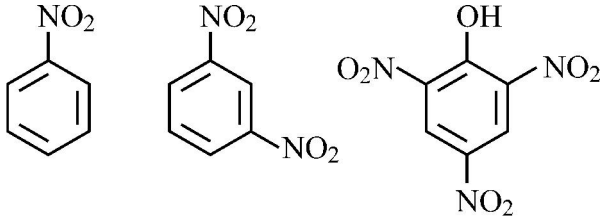
(a) Classify pigments based on their chemical structure & state any two advantages & limitations each.

(b) Identify class, hue and describe the method of application of following dyes :

(i) Acid orange IV

(ii) Reactive Red ME 4 B

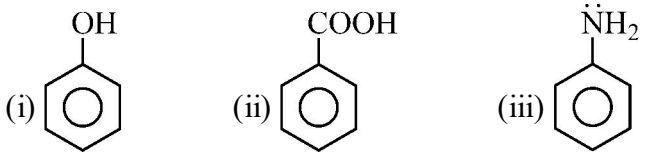
(c) Identify the aromatic compound from the following which can behave as a dye. Give the reason :



6. Attempt any TWO : **12**

(a) Explain the classification of dyes based on chemical structure as well as method of application.

(b) Identify the nature of following compounds :



Justify your answer indicating reactions with the reagents such as NaOH, Na_2CO_3 and HC*l*.

(c) Show the preparation of azo dye with the help of reagents given below :

(i) β-Naphthol in NaOH (ii) Aniline (iii) $NaNO_2$ (iv) HC*l*.

Write the reaction to justify your answer.
