

17340

21718

3 Hours / 100 Marks

Seat No.

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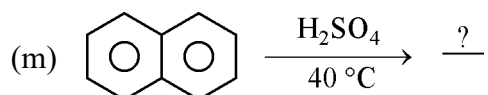
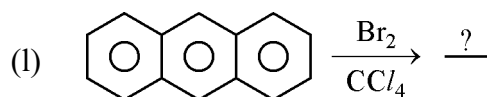
- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any TEN of the following :

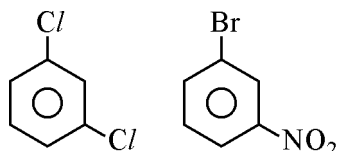
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- (a) Write two examples of Aliphatic compounds and Aromatic compounds.
- (b) Write resonance structure of Benzene.
- (c) Define Aryl halides with proper examples.
- (d) Write any two physical properties of Benzene sulphonic acid.
- (e) Explain how *o*-dinitrobenzene is prepared from nitrobenzene.
- (f) Predict the product obtained by reduction of nitrobenzene under alkaline medium.
- (g) Find sulphonation product of Aniline.
- (h) Draw structure of reagents required to prepare Benzene diazonium chloride.
- (i) Write two chemical properties of phenol.
- (j) Explain acidity of phenol and compare it with benzoic acid.
- (k) Write two chemical properties of Benzoic acid.



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

- (a) State characteristics of aromatic compounds.
- (b) Describe coal tar distillation process.
- (c) Name the following compounds :



- (d) Explain four chemical properties of Toluene with suitable chemical reactions.
- (e) Write commercial method of preparation of Benzene.
- (f) Explain Sandmeyer reaction.

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

- (a) Write physical properties and uses of chlorobenzene.
- (b) Describe the method of preparation of Benzene sulphonic acid by direct sulphonation.
- (c) Write chemical reactions of Benzene sulphonic acid with
 - (i) NaOH
 - (ii) $\text{HNO}_3 + \text{H}_2\text{SO}_4/\Delta$
 - (iii) Fuming $\text{H}_2\text{SO}_4/200^\circ \text{C}$
 - (iv) $\text{Br}_2/\text{FeBr}_3$
- (d) Explain preparation of Nitrobenzene from Benzene.
- (e) Explain chemical properties of Aniline with respect to – NH₂ group.
- (f) How Aniline is prepared from Chlorobenzene & Nitrobenzene ?

4. Attempt any FOUR of the following :

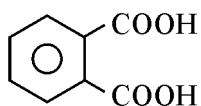
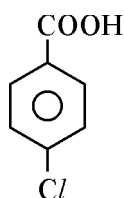
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- (a) Write classification of aromatic amines and give example of each class with structure and name.
- (b) Write reactions indicating preparation of Benzene diazonium chloride.
- (c) Write chemical reactions of phenol with :
- (i) Zn dust
 - (ii) Bromine water
 - (iii) Br_2/CS_2
 - (iv) Conc. HNO_3
- (d) Write physical properties of Phenol.
- (e) State Industrial applications of Benzene diazonium chloride.
- (f) What is diazotization reaction ? Write any two chemical properties of Benzene diazonium chloride.

5. Attempt any FOUR of the following :

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- (a) Explain how does Benzoic acid reacts with
- (i) PCl_5
 - (ii) LiAlH_4
- (b) Name the following aromatic acid :

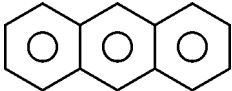
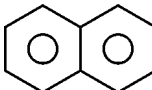
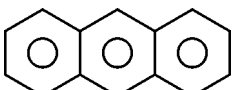
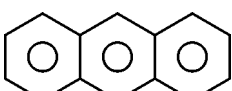


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- (c) Write preparation of Benzoic acid by any two methods.
- (d) Explain following reactions of Naphthalene :
- Sulphonation
 - Nitration
- (e) Explain how will you show Anthracene has three Benzene rings fused in orthoposition.
- (f) Write four applications of Naphthalene.

6. Attempt any FOUR of the following :

16

- (a) (i)  $\xrightarrow{\text{Oxidation}}$?
- (ii)  $\xrightarrow{\text{Halogenation}}$?
- (b) (i)  $\xrightarrow[\text{Acetic Anhydride}]{\text{HNO}_3}$?
- (ii)  $\xrightarrow[\text{CCl}_4]{\text{Br}_2}$? $\xrightarrow[-\text{HBr}]{\Delta}$?

- (c) Write evidences of fused rings in preparation of dye intermediates.
- (d) Explain preparation of Naphthalene by coal tar distillation.
- (e) Explain following chemical properties of Benzene :
- Reaction with acetyl chloride
 - Halogenation
- (f) Write applications of phenol in preparation of dye intermediate.
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