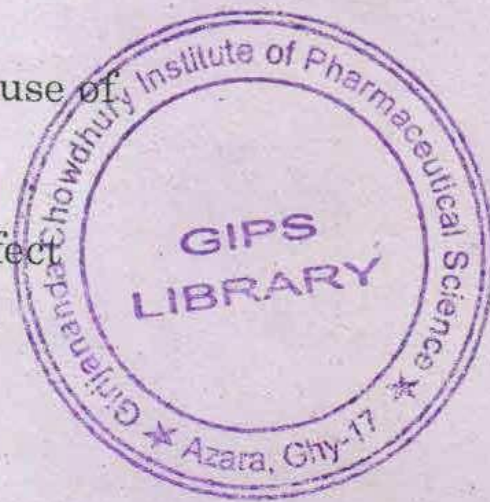


- (ii) Which of the following agents is used in order to make benzene react with concentrated nitric acid to give nitrobenzene?
- (1) concentrated H_2SO_4
 - (2) $FeCl_3$ catalyst
 - (3) Lindlar's catalyst
 - (4) UV light
- (iii) On heating with fuming H_2SO_4 , aniline is sulphonated to form mainly _____.
- (1) sulphanilic acid
 - (2) salicylic acid
 - (3) m-nitro aniline
 - (4) acetyl salicylic acid
- (iv) Phenol is used
- (1) in alcoholic bevarages
 - (2) as anesthetic
 - (3) in antiseptics
 - (4) as moth repellent
- (v) Which of the following compounds is most acidic?
- (1) o-cresol
 - (2) p-nitrophenol
 - (3) p-cresol
 - (4) p-chlorophenol

(vi) Phenol is acidic because of

- (1) Resonance
- (2) Electromeric effect
- (3) Inductive effect
- (4) Peroxide effect



(vii) The most stable conformation of cyclohexane is the _____.

- (1) Haworth form
- (2) Boat form
- (3) Newman form
- (4) Chair form

(viii) Cyclopropane reacts with concentrated HBr to give

- (1) 1-Bromopropane
- (2) Bromocyclopropane
- (3) 2-Bromopropane
- (4) 1, 2 dibromopropane

(ix) Which of the following is not a carboxylic acid _____.

- (1) malonic acid
- (2) acetic acid
- (3) picric acid
- (4) adipic acid

- (x) Gammexane is
- (1) Hexachloroethane
 - (2) DDT
 - (3) Hexachlorocyclohexane
 - (4) TNT

(b) Fill in the blanks : (10 × 1 = 10)

- (i) Benzene generally shows _____ reaction.
- (ii) Benzene reacts with hydrogen in the presence of nickel (or platinum) catalyst at 150°C under pressure to form _____.
- (iii) Aniline on oxidation with potassium dichromate and sulphuric acid gives _____.
- (iv) Phenol gives _____ when reacts with concentrated nitric acid.
- (v) Benzoic acid undergoes reduction with lithium aluminium hydride to give _____.
- (vi) The degree of unsaturation of a fat or oil is measured by its _____.
- (vii) Soaps are sodium or potassium salts of _____.
- (viii) Cyclopropane and cyclobutane are _____ at room temperature.

(ix) Anthracene gives _____ with concentrated sulphuric acid at low temperature.

(x) The colour of the Anthraquinone is _____.

2. Answer any SEVEN questions from the followings :

(7 × 5 = 35)

- (a) Write down the criterias of a compound to produce aromaticity. Give the example of four aromatic compounds which obey Huckel rule. Explain the resonance of Benzene. (2 + 1 + 2 = 5)
- (b) Describe the basicity of amines. Explain the effect of substituents on basicity. (2 + 3 = 5)
- (c) Write five important chemical reaction of Benzoic acid. (5)
- (d) Explain the acidity of phenol. Write structure and uses of Phenol, o-cresol, resorcinol and β -naphthol. (1 + 4 = 5)
- (e) Why α -product predominates over β -product in electrophilic substitution reaction of Naphthalene. Write two important chemical reaction of Naphthalene. (3 + 2 = 5)
- (f) Describe Baeyer's strain theory and Sacht-Mohr's theory in stability of cyclohexane. (5)

- (g) Explain the mechanism of Friedel-Crafts acylation of Benzene. Write the structure and uses of DDT, saccharin and BHC. (2 + 3 = 5)
- (h) Explain the Haworth synthesis of Anthracene. Draw the molecular orbital structure of Anthracene and Naphthalene. (3 + 2 = 5)
3. Answer the following questions (any TWO) :
(2 × 10 = 20)
- (a) Write down the mechanism of following reactions of phenol _____.
- (i) Fries rearrangement. (4 + 3 + 3 = 10)
 - (ii) Reimer-Tiemann reaction
 - (iii) Kolbe reaction
- (b) (i) Why Benzene shows electrophilic substitution reaction instead of electrophilic addition reaction?
- (ii) Describe five important chemical reaction of Benzene with mechanism. (10)
- (c) Write a note on fats and oils in details. (10)
-