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B. Pharmacy (Third Semester) Examination, Nov.-Dec. 2019

(PCI Scheme)

(Pharmacy Branch)

PHARMACEUTICAL ORGANIC CHEMISTRY-II

THEORY (BP301 T)

Time Allowed : Three hours

Maximum Marks : 75

Note *: Attempt all the sections as directed. Carefully read the internal choice of questions.*

Section-'A'

(Objective Type Questions) **20×1=20**

Note : *Attempt all questions. Each question carries 1 mark.*

1. Multiple choice questions :

(i) Which of the following statements regarding electrophilic aromatic substitution is wrong :

(a) Sulfonation of toluene is reversible.

(b) Friedel-Crafts alkylation of benzene can be reversible.

(c) Friedel-Crafts alkylation with primary alkyl chloride may involve rearrangement.

(d) Friedel-Crafts alkylation of nitrobenzene readily gives a meta substitution product.

(ii) Sulponation of Phenol at room temperature gives

(a) p-isomer

(b) o-isomer

(c) Both (a) and (b)

(d) None of the above

(iii) Phenol is better bronsted acid than cyclohexenol because :

(a) It is a better proton donor

(b) The cyclohexyl group is an electron donating group by induction which stabilizers the anion formed in the reaction.

(c) Phenol is able to stabilize the anion formed in the reaction by the resonance

(d) None of the above

(iv) The specific gravity of lipid is :

(a) 0·2

(b) 0·8

(c) 1·0

(d) 1·5

(v) Rancidity of lipids containing food is due to :

(a) Hydrogenation of unsaturated fatty acids

(b) Reduction of fatty acids

(c) Oxidation of fatty acids

(d) Dehydrogenation of saturated fatty acids

(vi) Dietary fats are transported by :

(a) Chylomicrons

(b) Liposomes

(c) Lipid globules

(d) Oil droplets

(vii) Which of the following is important in testing the purity of butter and ghee :

(a) R.M. value

(b) Saponification value

(c) Iodine value

(d) Acetyl value

(viii) An aromatic molecule will have :

(a) Have $(4n + 2)\pi$ electrons

(b) Be cyclic

(c) Be planar

(d) All of the above

(ix) Benzene act as :

(a) Nucleophile

(b) Electrophile

(c) Both (a) and (b)

(d) None of the above

(x) 1-Nitronaphthalene on reduction yields :

(a) 1-Naphthylamine

(b) 2-Naphthylamine

(c) 1-Naphthol

(d) 2-Naphthol

(xi) Upon ozonolysis, phenanthrene gives :

(a) Phenanthroquinone

(b) Diphenic acid

(c) Phenanthric acid

(d) Diphenylaldehyde

(xii) Cyclopropane when reacted with bromine it gives

(a) 1, 2-dibromopropane

(b) 1, 3-dibromopropane

(c) 1, 4-dibromopropane

(d) 1, 1-dibromopropane

(xiii) Which of the following cycloalkanes has lowest heat of combustion :

(a) Cyclopropane

(b) Cyclopentane

(c) Cyclohexane

(d) Cycloheptane

(xiv) Anthracene undergoes electrophillic substitution reactions mainly at :

(a) C-1

(b) C-2

(c) C-9

(d) C-4

(xv) Which of the following cycloalkanes has the more strain energy :

(a) Cyclobutane

(b) Cyclopentane

(c) Cyclohexane

(d) Cyclopropane

(xvi) The boat conformation has how many eclipsing H-H interactions :

(a) 1

(b) 2

(c) 4

(d) 6

(xvii) PAHs stand for :

(a) Polyaromatic Hydrocarbons

(b) Polyaromatic halides

(c) Polyamines as Histamines

(d) None of these

(xviii) PAHs are :

(a) Polar

(b) Non-Polar

(c) Both (a) and (b)

(d) None of these

(xix) The diazonium salts are reaction product of reaction of nitrous acid with

(a) primary aliphatic amines

(b) primary aromatic amines

(c) secondary aliphatic amines

(d) secondary aromatic amines

(xx) Phenol is used :

(a) in alcoholic beverages

(b) as anaesthetics

(c) in antiseptics

(d) as moth repellant

Section-'B'

(Long Answer Type Questions) 2×10=20

Note : Attempt any two questions out of 3 question. Each question carries 10 marks.

2. Write in detail about the preparation, properties, uses and acidity of Phenols.

3. Write an exhaustive note on syntehsis, properties and uses of Phenanthrene.

4. Explain in detail about the different Electrophillic Aromatic Substitution Reactions in Benzene with mechanism.

Section-'C'

(Short Answer Type Questions) 7×5=35

Note : Attempt any seven questions out of nine questions. Each question carries 5 marks.

5. What is aromaticity and Huckel's Rule?

6. Describe the Basicity of amines in detail with respect to the effect of substituent.

7. Explain Bayer's Strain thebry along with its limitations.

8. Write a short note on electrophillic substitution in Naphthalene derivatives.

9. Write brief about chemical properites of Cycloalkanes.

10. Write short notes on aryl diazonium salts.

11. Discuss the acid value and saponification value along with their significance.

12. Give the structure and uses of DDT, Resorcinol and Chloramine.

13. Discuss rancidity and drying of oils.