

B.Pharm. (CBCS Pattern) Semester-III
BP301T - Pharmaceutical Organic Chemistry-II

P. Pages : 3

Time : Three Hours



GUG/S/25/10884

Max. Marks : 75

Notes : 1. All questions are compulsory.

- 1. Multiple choice questions. 1x20
=20**
- i) Benzene undergo substitution reaction more easily than addition reaction because
a) It has a cyclic structure b) It has three double bonds
c) It has six hydrogen atom d) There is a delocalization of electrons
- ii) Gammexane is -----
a) Hexachloroethane b) DDT
c) Hexachlorocyclohexane d) TNT
- iii) Sodium/potassium salts of fatty acids are called -----
a) Proteins b) Terpenes
c) Carbohydrates d) Soaps
- iv) Ozonolysis of benzene gives -----
a) Formic acid b) Glyoxal
c) Formaldehyde d) Glycine
- v) Anthracene is a polycyclic aromatic hydrocarbon composed of three fused ----- rings.
a) Ethylene b) Alkane
c) Pyridine d) Benzene
- vi) Fats and oils are ----
a) Monoesters of glycerol b) Diesters of glycerol
c) Triesters of glycerol d) Diesters of glycol
- vii) The degree of unsaturation of a fat can be determined by means of its --
a) Iodine number b) Octane number
c) Saponification number d) Melting point
- viii) Phenol is acidic because of
a) Resonance b) Electromeric effect
c) Inductive Effect d) Peroxide effect
- ix) Which of the following is more basic than aniline.
a) Benzylamine b) P-nitroaniline
c) Triphenylamine d) Diphenylamine
- x) Carboxyl group in aromatic acid is ----
a) O-directing b) P-directing
c) M-directing d) Both a & c

- xi) Identify the formula for cycloalkanes
- | | |
|--------------------|--------------------|
| a) $C_2H_{2n} + 2$ | b) $C_nH_{2(n+2)}$ |
| c) C_2H_{2n} | d) $C_nH_{2(n-2)}$ |
- xii) Electron releasing group on aromatic amines
- | | |
|---------------------------|--------------------------|
| a) Decreases the basicity | b) Increase the basicity |
| c) Neutral the basicity | d) None of the above |
- xiii) Anthracene undergoes electrophilic substitution reactions mainly at --
- | | |
|----------|------------------|
| a) C – 1 | b) C – 2 |
| c) C – 9 | d) C – 1 & C – 2 |
- xiv) Which of the following compound have highest ring strain
- | | |
|-----------------|-----------------|
| a) Cyclopropane | b) Cyclohexane |
| c) Cyclobutane | d) Cyclomethane |
- xv) The electrophile which is considered to be the active agent in the nitration of benzene is
- | | |
|-------------|--------------|
| a) NO_2^- | b) NO^+ |
| c) NO_2^+ | d) HNO_2^+ |
- xvi) All carbon atoms in naphthalene are
- | | |
|----------------------|----------------------|
| a) Sp hybridized | b) Sp^2 hybridized |
| c) Sp^3 hybridized | d) None of the above |
- xvii) Phenanthrene on reduction gives
- | | |
|--------------------------------|------------------------------|
| a) Diphenic acid | b) 9, 10 – phenanthraquinone |
| c) 9, 10 – dihydrophenanthrene | d) Diphenyl aldehyde |
- xviii) Which of the following is most acidic
- | | |
|-------------|------------------|
| a) Phenol | b) m-Nitrophenol |
| c) m-cresol | d) m-bromophenol |
- xix) Partial hydrogenation of vegetable oils in the presence of Ni catalyst at $200^\circ C$ gives
- | | |
|-------------------|----------------------|
| a) Vanaspati Ghee | b) Margarine |
| c) Both a & b | d) None of the above |
- xx) Cyclopropane reacts with concentrated HBr to give
- | | |
|---------------------|--------------------------|
| a) 1 – Bromopropane | b) Bromocyclopropane |
| c) 2 – Bromopropane | d) 1, 2 – Dibromopropane |

2. Solve any two.

2x10
=20

- Write in detail electrophilic aromatic substitution reactions of benzene.
- Describe the synthesis method and chemical reactions of Naphthalene.
- Write a detailed note on analysis of fat and oil.

3. Solve any seven.

**7x5
=35**

- i) Explain resonance and Kekule's structure of benzene.
- ii) What are phenols? Explain effect of substituents on acidity of phenol.
- iii) Write structure, method of preparation and uses of chloramine and DDT.
- iv) Discuss the reaction of benzoic acid.
- v) What is Baeyer's strain theory and what are its limitations.
- vi) Write structure and uses of
 - a) Cresols
 - b) Resorcinols
- vii) Explain the basicity of amines along with the effect of substituents on basicity.
- viii) Write a note on derivatives of anthracene.
- ix) Write synthetic applications of diazonium salt.
