B. Pharm. CBCS Pattern Semester-III

BP301T - Pharmaceutical Organic Chemistry-II

P. Pages : 2 **GUG/W/23/10884**

Time : Three Hours * 5 9 8 0 * Max. Marks : 75

Notes : 1. All questions are compulsory.
2. Discuss the reaction, mechanism wherever necessary.
3. Illustrate your answers wherever necessary with the help of neat sketches.

1. Multiple choice questions – **10x1 =20**

1) Dow's Process is used for the preparation of -------
a) Amines b) Phenols
c) Both (a) and (b) d) None of these

2) The carbon atoms in a benzene ring are --------
a) sp hybridized b) sp^3 hybridized
c) sp^2 hybridized d) None of these

3) Electrophilic attack on Naphthalene occurs act -------
a) C_1 b) C_3
c) C_2 d) C_4

4) 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^+

5) Huckel rule is also known as ---------
a) (4n+2) S rule b) (4n+1) S rule
c) (4n+2) σ rule d) (4n+1) σ rule

6) Identify the formula for cycloalkane -------
a) C_2H_{2n+2} b) $C_nH_{2(n+2)}$
c) C_2H_{2n} d) $C_nH_{2(n-2)}$

7) Which is fused cyclic aromatic compound?
a) Biphenyl b) Diphenyl methane
c) Diphenylamine d) Naphthalene

8) Saponification is done ------
a) By alkali hydrolysis b) By acids
c) By salts d) All of above

9) Benzene undergoes -------
a) Substitution reaction b) Addition reaction
c) Elimination reaction d) None of these

10) Which catalyst is used during halogenation of benzene -----
a) Lewis acid b) Lewis base
c) Platinum d) Ni/pt

11) Ortho-Para directing group are -------
a) NO_2, SO_3H, COOH b) CN, CHO, SO_3H
c) OH, NH_2, CH_3 d) None of these

12) Number of sigma bonds in a benzene is -------
   a) 2 b) 3
   c) 4 d) 1

13) Phenanthrene is a fused polycyclic compound contains -------
   a) Three benzene lings b) Four benzene lings
   c) Two benzene lings d) One benzene lings

14) Which of the following compound have highest ring strain -------
   a) Cyclopropane b) Cyclobutane
   c) Cyclopentane d) Cyclomethane

15) Electron releasing group on aromatic amines -----
   a) Decrease the basicity b) Increase the basicity
   c) Neutral the basicity d) None of above

16) Hoffman's degradation reaction is used for the synthesis of -----
   a) Secondary aromatic amines b) Primary aromatic amines.
   c) Tertiary aromatic amines d) None of above

17) All carbon atoms in anthracene are -------
   a) sp hybridized b) sp^2 hybridized
   c) sp^3 hybridized d) None of above

18) Which of the following amines does not react with acid chloride.
   a) Secondary Amine b) Tertiary Amine
   c) Quaternary amine d) Primary Amine

19) Enzyme responsible for hydrolysis of fat is -----
   a) Reductase b) Aconitase
   c) Lipase d) Kinase

20) Picric acid forms when phenol reacts with -------
   a) Hydrogen b) Nitric acid
   c) Sulphuric acid d) Formaldehyde

2. Solve **any two** question. **2x10 =20**

a) Describe structure, synthesis and uses of Naphthalene?
b) Explain the electrophilic aromatic substitutions reactions of Benzene?
c) Discuss the reactivity and stability along with preparation and reactions of cycloalkanes?

3. Solve **any seven.** **7x5 =35**

a) Discuss the reaction of Hofmann's degradation.
b) Explain resonance and Kekule's structure of benzene.
c) Explain the acid value and saponification value along with their significance.
d) What are phenols? Explain effect of substituents on acidity.
e) Write a brief note on Iodine value, Acid value.
f) Write a note on orientation of Benzene.
g) Comment on acidic nature of aromatic acid.
h) Discuss the Kolbe's reaction.
i) Discuss the reactions of Benzoic acid.

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