

PARUL UNIVERSITY
FACULTY OF PHARMACY
B. Pharm. Summer 2018 - 19 Examination

Semester: 2
Subject Code: BP202T
Subject Name: Pharmaceutical Organic Chemistry I- Theory

Date: 04/04/2019
Time: 2:00 PM TO 5:00 PM
Total Marks: 75

Instructions:

- Figures to the right indicate maximum marks.
- Make suitable assumptions wherever necessary.

Q.1 Multiple Choice Questions (MCQs) (1 Mark Each)**(20)**

- What is the IUPAC name of Aniline?

a) Aminobenzene	b) Nitrobenzene
c) Methoxybenzene	d) None of the above
- Number of unhybridized p-orbitals in sp hybridization:

a) 0	b) 1
c) 2	d) 3
- A group of atoms with a positively charged carbon atom is known as:

a) Carbocation	b) Carbanions
c) Free radicals	d) None of the above
- Formalin is a 40% solution of _____ in water:

a) Formic acid	b) Paraldehyde
c) Cinnamaldehyde	d) Formaldehyde
- The basic character of an amine is due to presence of..... on nitrogen atom:

a) A lone pair of electrons	b) A lone pair of protons
c) Due to Nitric ion	d) None of the above
- Functional group NH₂ containing compound is:

a) Ethanolamine	b) Ethylenediamine
c) Ethanal	d) both a & b
- In Cannizzaro reaction, HCHO reacts in presence of:

a) Conc. NaOH	b) Conc. NaCl
c) Conc. HCl	d) Conc. HNO ₃
- In the following carbocation, which one is more stable:

a) 2°	b) 1°
c) 3°	d) Methyl cation
- Metamerism in organic compounds is due to:

a) Different alkyl group	b) Different functional group
c) Different positions of group	d) None of the above
- Compounds and functional groups that contain a -COOH-group is called as:

a) Amines	b) Alcohols
c) Carboxylic acids	d) None of the above
- Condensation between two same aldehydes is called as:

a) Aldol condensation	b) Benzoin condensation
c) Cross aldol condensation	d) Carbylamine reaction
- Benzoic acid having the molecular formula:

a) C ₇ H ₆ O ₂	b) C ₇ H ₅ O ₂
c) C ₆ H ₇ O ₂	d) C ₇ H ₆ O ₃
- Which alkyl halide follow SN₂ reaction?

a) Tertiary	b) Primary
c) Second	d) None of the above
- Anhydrides are the derivatives of :

a) Carboxylic acid	b) Alcohol
c) Amines	d) Ketones

15. Inversion is related with the following reaction:
- | | |
|--------------------|--------------------|
| a) SN_1 reaction | b) SN_2 reaction |
| c) E_1 | d) E_2 |
16. The compounds in which two double bonds are separated by a single bond are called as:
- | | |
|------------------|----------------------|
| a) Alkyl halides | b) Conjugated Dienes |
| c) Carbocations | d) None of the above |
17. Diels-Alder reaction of a conjugated diene and a dienophile is:
- | | |
|---------------------------|---------------------------|
| a) [4+2]-cycloaddition | b) [2+4]-cycloaddition |
| c) [4+2]-cycloelimination | d) [2+4]-cycloelimination |
18. The functional group of Ketone is:
- | | |
|---------|----------|
| a) -CHO | b) C=O |
| c) COOH | d) COOR' |
19. Transition state is related with the following reaction:
- | | |
|--------------------|----------------------|
| a) SN_1 reaction | b) SN_2 reaction |
| c) Both a & c | d) None of the above |
20. Phenol containing derivative is:
- | | |
|-------------------|---------------|
| a) Salicylic acid | b) Cresol |
| c) Methanol | d) Both a & b |

Q.2 Long Answers (any 2 out of 3) (10 Mark Each)

(20)

1. Define Substitution reaction. Explain SN_2 reaction, kinetics, mechanism & its Stereochemistry.
2. Classify Organic Compounds with Structures. Write in detail about Structural isomerisms in organic compounds.
3. Define Elimination reaction. Give a detail note about E_1 reaction.

Q.3 Short Answers (any 7 out of 9) (5 Mark Each)

(35)

1. Explain sp^2 hybridization in alkenes.
2. Explain Acidity of carboxylic acid & effect of substituents on acidity.
3. Write a short note on Aldol condensation.
4. Write down the structure and use of: a) Acetyl Salicylic Acid b) Chloroform
5. Explain Markownikoff's rule with the stability of Carbocations formed during addition of hydrogen halide.
6. Describe basicity of Amines & effect of substituent on basicity.
7. Explain Perkin reaction with its mechanism.
8. Discuss Diels-Alder reaction in detail.
9. Write down the structure and use of: a) Ethylenediamine b) Benzaldehyde