

**B. PHARM.
THIRD SEMESTER
PHARMACEUTICAL ORGANIC CHEMISTRY-II
BP301T [REPEAT]
[USE OMR FOR OBJECTIVE PART]**

**SET
A**

Duration : 3 hrs.

Full Marks : 75

Time : 30 min.

(PART-A: Objective)

Marks : 20

Choose the correct answer from the following:

1×20=20

- Phenols are derivative of-
 - Benzene
 - Alkanes
 - Alkynes
 - Alkenese jogir
- Electron withdrawing substituents?
 - Stabilise the phenoxide ion and increase the acidity of phenol.
 - Stabilise the phenoxide ion and decrease the acidity of phenol
 - Stabilise the phenoxide ion and neutralise the acidity of phenol
 - None of above.
- Phenol is less acidic than
 - Ethanol
 - p-methoxyphenol
 - p-nitrophenol
 - Both a and b
- Which of the following is true for the basicity of amines?
 - Alkylamines are generally less basic than arylamines because N is sp hybridised.
 - Arylamines are generally more basic than alkylamines due to aryl group.
 - Arylamines are generally less basic than alkylamines due to delocalisation of lone pair of electrons in the benzene ring.
 - Alkylamines are generally less basic than arylamines because lone pair of electrons on N in the arylamines are not delocalised in the benzene ring.
- Which one is more electronegative
 - F
 - O
 - N
 - C
- Which one of the following is act as an electrophile
 - NO_2^+
 - H_2O^+
 - Cl^-
 - All of these
- Which one of the following is act as a nucleophile
 - K^+
 - CN^-
 - SO_3
 - None of the above
- When an atom loses or donates its electron due to resonance which sign arise on that atom in this condition?
 - Positive
 - Negative
 - Both
 - Delta negative

9. In an organic reaction as a product if you get toluene (an alkylbenzene) from benzene then which of the following reaction may happened?
 - a. Nitration of benzene
 - b. Sulphonation of benzene
 - c. Friedel crafts alkylation
 - d. Friedel crafts acylation
10. Naphthalene on oxidation with $\text{CrO}_3/\text{CH}_3\text{OOH}$ gives
 - a. 1,2-Naphthoquinone
 - b. 1,3-naphthoquinone
 - c. 1,4-naphthoquinone
 - d. No reaction
11. To prepare mono substituted cycloalkane which reagents is used
 - a. Br_2/CCl_4
 - b. Cl_2/CCl_4
 - c. UV light/ CCl_4
 - d. HBr
12. Which among these is the simplest example for polynuclear hydrocarbon??
 - a. Pyrene
 - b. Dibenzanthracene
 - c. Naphthalene
 - d. Benzacephenanthrylene
13. Which one of the following is act as a meta orienting group?
 - a. CH_3
 - b. OH
 - c. CHO
 - d. Cl
14. Which one of the following is act as a ortho-para orienting group?
 - a. COOH
 - b. NO_2
 - c. OH
 - d. CN
15. Which of the following is the molecular formula of palmitic acid?
 - a. $\text{C}_{13}\text{H}_{27}\text{COOH}$
 - b. $\text{C}_{17}\text{H}_{35}\text{COOH}$
 - c. $\text{C}_{15}\text{H}_{31}\text{COOH}$
 - d. $\text{C}_{17}\text{H}_{29}\text{COOH}$
16. Which of the following is an unsaturated fatty acid
 - a. Stearic acid
 - b. Palmitic acid
 - c. Oleic acid
 - d. All of these
17. Carboxylic acid of alcohol can be converted into primary alcohol by
 - a. Oxidation using KMNO_4
 - b. Reduction using LiAlH_4
 - c. Hydrolysis using NaOH
 - d. Ester formation
18. Carbonation of Grignard reagent leads to the synthesis of
 - a. Alkyl halide
 - b. Carboxylic acid
 - c. Aldehyde
 - d. Ketone
19. Effect of the para- CH_3 group on the acidity of benzoic acid
 - a. Increase
 - b. Decrease
 - c. No effect
 - d. Strongly increase
20. Carboxylic acid is more acidic than alcohol and phenol due to
 - a. Intermolecular hydrogen bonding
 - b. Formation of diammers
 - c. None
 - d. Resonance stabilization of their conjugated base

PART-B: Descriptive

Time : 2 hrs. 30 min.

Marks : 35

[Answer any seven (7) questions]

1. Explain the following key terms with example (reactions) a) Hydrolysis of fat. b) Hydrogenation of fat. 5
2. Write the synthetic uses of Aryl-di-azonium salt. 5
3. Write the reactions with mechanisms about Friedel crafts alkylation? What is the limitations of it? 5
4. Explain briefly - Resonance of benzene 5
5. Write the structure and uses of phenol, cresols and naphthols. Mention any two qualitative test for phenol. 5
6. Explain bayer strain theory with limitations. 5
7. Explain a) Acid value b) Saponification value c) Ester value 5
8. Write notes on polynuclear hydrocarbon with example and classification of polynuclear hydrocarbon? 5
9. What is Coulson and Moffitt's modification in cycloalkane and Sachse Mohr's theory? 5

(PART-C : Long type questions)

[Answer any two (2) questions]

1. Give brief notes on structure of amine. Explain the Methods of preparation of amine. Write the basicity of amine with their effect on substituents. **10**

2. Write the reactions with mechanisms **10**
 - a. Nitration of benzene
 - b. Sulphonation of benzene
 - c. Halogenation of benzene

3. Write the structure and three uses **10**
 - a. Saccharine
 - b. DDT
 - c. BHC
 - d. Chloramine

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