

**B. PHARM.
FOURTH SEMESTER
PHARMACEUTICAL ORGANIC CHEMISTRY III
BP401T**

**SET
B**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration : 3 hrs.

Full Marks : 75

(PART-A: Objective)

Time : 30 min.

Marks : 20

Choose the correct answer from the following:

1×20=20

- Compounds which rotate plane of polarized light towards left is known as
 - Dextro - compound
 - Levo- compound
 - Optical- compound
 - Cyclic - compound
- Reagent used for nucleophilic substitution reaction of quinoline
 - NaOH
 - NaNH₃
 - NaNH₂
 - NaNH₄
- Catalytic reduction of quinoline in presence of acetic acid gives?
 - Decahydro quinoline
 - 1,2-Dihydro quinoline
 - 3,4-Dihydro quinoline
 - 1,2,3,4-tetrahydro quinoline
- Reagent used in Birch reduction reaction?
 - Phthalic acid
 - Benzoic acid
 - Li in Liq. NH₃ in ethanol
 - LiAlH₄
- Oxidation of isoquinoline in presence of KMnO₄ gives?
 - Phthalic acid
 - Phthalic anhydride
 - 1-amino isoquinoline
 - 2-amino quinoline
- IN presence of strong oxidizing agent alcohol gets oxidised to?
 - Aldehyde
 - Carboxylic acid
 - Ketone
 - Ether
- Pyridine is basic in nature due to?
 - Double bond
 - Aromatic sextet
 - Sigma bond
 - Lone pair of electrons
- Nitration of pyrrole yields
 - 2- nitro pyrrole
 - 4- nitro pyrrole
 - 3- nitro pyrrole
 - 5- nitro pyrrole
- Molecular formula of Thiazole
 - C₃H₄NS
 - C₃H₃NS
 - C₃H₅NS
 - C₄H₄NS
- Which of the following compound is not a heterocyclic aromatic compound?
 - Naphthalene
 - Pyrrole
 - Furan
 - Pyrimidine

11. Priority order for the heterocyclic compounds is always started from heteroatom-
 - a. O>N>P>S>Si
 - b. N>O>P>S>Si
 - c. O>P>N>Si>S
 - d. O>S>N>P>Si
12. Furan on reacts with CHCl_3/KOH gives
 - a. 2-Chloro furan
 - b. Furfural
 - c. 2-acetyl furan
 - d. None of these
13. Acetylene reacts with H_2S at 673K gives
 - a. Furan
 - b. Thiophene
 - c. Pyridine
 - d. Pyrrole
14. Molecular formula of Pyridine is
 - a. $\text{C}_4\text{H}_5\text{N}$
 - b. $\text{C}_3\text{H}_5\text{N}$
 - c. $\text{C}_5\text{H}_5\text{N}$
 - d. $\text{C}_5\text{H}_4\text{N}$
15. Chiral compounds are?
 - a. Super imposable mirror image
 - b. Non-Super imposable mirror image
 - c. Both
 - d. NOTA
16. Which of the following compound have 2 chiral centres?
 - a. Lactic acid
 - b. 2-butanol
 - c. Tartaric acid
 - d. Glyceraldehyde.
17. Which of the following is not a system of nomenclature for geometrical isomerism
 - a. Cis-trans
 - b. DL
 - c. EZ
 - d. Syn-Anti
18. How many conformational isomers are available for ethane?
 - a. 4
 - b. 6
 - c. 5
 - d. 7
19. In staggered conformation the torsional strain is --?
 - a. 0
 - b. 60
 - c. 120
 - d. 90
20. Molecular formula of indole is-?
 - a. $\text{C}_8\text{H}_9\text{N}$
 - b. $\text{C}_9\text{H}_9\text{N}$
 - c. $\text{C}_7\text{H}_8\text{N}$
 - d. $\text{C}_8\text{H}_9\text{O}$

(PART-B : Descriptive)

Time : 2 hrs. 30 min.

Marks : 35

[Answer any seven (7) questions]

- | | |
|---|---------------|
| 1. Write a note on Clemmensen reduction reaction. | 5 |
| 2. Write the synthesis and medicinal uses of a. Pyrimidine
b. Azepines | 2.5+2.5
=5 |
| 3. Write a note on synthesis, reaction and medicinal uses of Imidazole. | 5 |
| 4. Write a note on conformational isomerism in Ethane. | 5 |
| 5. Explain the nomenclature of heterocyclic compounds. | 5 |
| 6. Write a note on Asymmetric synthesis: Partial and Absolute. | 5 |
| 7. Explain the method for the determination of Geometrical isomerism. | 5 |
| 8. Write a note on classification of heterocyclic compounds. | 5 |
| 9. Write a note on Claisen-Schmidt condensation. | 5 |

PART-C: Long type questions

[Answer any two (2) questions]

- | | |
|--|--------|
| 1. Write a note on pyrrole and Thiophene | 5+5=10 |
| 2. Define the following term with example- | 2+2+2+ |
| a. Isomerism b. Optical isomerism c. Cis/trans isomerism | 2+2=10 |
| d. Chiral and Achiral molecules e. Racemic modification. | |
| 3. Define atropisomerism? Explain sequence rule for nomenclature of geometrical isomerism. | 2+8=10 |

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