Pharmaceutical Organic Chemistry III

B. Pharm. IV Semester

Model Question Paper

Unit 3 & 4- Heterocyclic Compounds

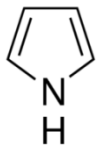
Unit 5- Name Reactions and Reagents

Important Questions for Practice only

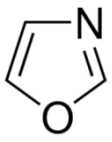
www.youtube.com/pharmacologyconceptsbyrajeshchoudhary

Section 1. MCQs

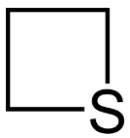
1. Write the Nomenclature of following



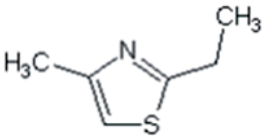
Azolidine



1,3-Oxazole



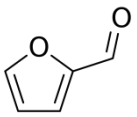
Thietane



2-ethyl-4-methyl-1,3-thiazole

2. Which shows the high Reactivity
   - **a) Furan**
   - b) Pyrrole
   - c) Thiophene
   - d) Benzene
3. Why Pyridine is more basic than Pyrrole
   - **a) Lone pair of electron at N-atom is easily available for protonation**
   - b) Lone pair of electron at N-atom is not easily available for protonation
   - c) Lone pair of electron at N-atom involve in aromaticity
4. Electrophillic substitution reaction on Pyrrole preferred at ..
   - **a) C-2 position**
   - b) C-3 position

5. Oxiadation of Furfural followed by decarboxylation produces



   a) Furoic acid
   b) Furane
   c) Thiophene
   d) oxazole
6. Main precursor of Paal-Knoor Synthesis
   a) Hexane 2,5-dione
   b) Hexane 1,5-dione
   c) Hexane 1,6-dione
   d) Hexane 2,4-dione
7. Sulphonation of Thiophene produces
   a) Thiophene-2-sulfonic acid
   b) Thiophene-2-sulfonic acid
   c) Thiophene-2-sulfonic acid
   d) Thiophene-2-sulfonic acid
8. 2 mole Acetylene react with Ammonia produces
   a) Pyrolidine
   b) Pyrrole
   c) Imidazole
   d) Pyrazole
9. Pyrazole also known as
   a) 1,2-diazole
   b) 1,3-diazole
   c) 1,4 diazole
   d) 1,5 diazole
10. Nitration on pyrazole produce
   a) 2-nitro pyrazole
   b) 3-nitro pyrazole
   c) 4-nitro pyrazole
   d) 5-nitro pyrazole
11. Pyridine is a
   a) Weaker base than pipridine
   b) Weaker base than Pyrrole
12. Quinoline derivative mainly found in
   a) Cardiac glycoside
   b) Cinchona Plant
   c) Anthraquinone alkaloid
   d) None
13. Pyridine Shows Electrophyllic substitution reaction at
   a) C-2
   b) C-3
   c) N-1
   d) All
14. In Quinoline ring, nucleophilic substitution reaction favours in
   a) Benzene ring

b) Pyridine ring

15. In Quinoline ring, which is the electron rich

a) Benzene ring

b) Pyridine ring

16. In Indole which of the heterocyclic ring is fused with benzene

a) Pyrrazole

b) Pyrrole

c) Isoxazole

d) Imidazole

17. Sulfonation of indole occurs at.... position

a) 2

b) 3

c) 4

d) 5

18. In Indole ring, which is the electron rich

a) Benzene ring

b) Pyrrole ring

19. Acridine is the resemble to

a) Anthacene

b) Naphthalene

c) Phenanthrene

d) Benzene

20. In Acridine, which catalyst causes reduction of benzene ring

a) Zn/HCl

b) Pt/HCl

c) LiAlH4

d) None

21. Which is a pyrimidine analogue

a) Adenine

b) Thymine

c) Uralic

d) B & C

22. Which is the Stronger reducing agent

a) NaBH4

b) LiAlH4

c) Both

d) None

23. Which is the Correct statement for Clemmensen reduction

a) Reduction of aldehyde into alkanes

b) Reduction of ketone into alkanes

c) Zn(Hg)/HCl is act as a catalyst

d) All

24. Which is the wrong statement for Brich reduction

a) Sodium in ammonia with alcohol act as catalyst

b) Lithium in Ammonia with alcohol act as catalyst

c) Magnesium in Ammonia with alcohol act as catalyst

d) 1,4 reduction in aromatic ring

25. Wolff-Kishnner reduction is used to convert

a) Carbonyl groups onto methylene groups

b) Hydroxyl alcohol to **methylene**

c) Hydroxyl phenol to Arene

d) None

26. Oppenauer Oxidation is useful for oxidation of

a) Primary alcohol to ketone

b) Secondary alcohol to ketone

c) Tertiary alcohol to ketone

d) Quartnary alcohol to ketone

27. Dakin Reaction is mainly used to preparation of

a) Benzaldehyde

b) Phenol

c) Benzoic acid

Section 2. Long Answer Type Questions

1. Discuss the Structure, Synthesis, Chemical Reactions, and Uses of Pyrrole/Furan
2. Discuss the Structure, Synthesis, Chemical Reactions, and Uses of Pyridine
3. Structure, Synthesis, Chemical Reactions, and Uses of Quiniline/Isoqunoline
4. Structure, Synthesis, Chemical Reactions, and Uses of Imidazole

Section 3. Short Answer type Questions

1. Classification and Nomenclature of Heterocyclic Compounds
2. Basicity of Pyrrole vs Pyridine
3. Organic Chemistry of Indole
4. Wolff-Kishnner reduction
5. Backmann Rearrangement Reaction
6. Oppenauer Oxidation Reaction

IMPORTANT Playlist links click:

Pharmacology (4th sem):
https://youtube.com/playlist?list=PLGvozyFU10Y58xBR6TPcxpb6I-ArZ7Y0l

Pharm. Organic Chemistry 3 (B.Pharm. 4th Semester):
https://youtube.com/playlist?list=PLGvozyFU10Y6Q_vtW6Kh3TQ3Y6l-L1d7e

Medicinal Chemistry 1:
https://youtube.com/playlist?list=PLGvozyFU10Y7pMHCgGBpfYAtQd93gUlT7

Pharm. Organic Chemistry II (B. Pharm. 3 Semester):
https://www.youtube.com/playlist?list=PLGvozyFU10Y6IoNRO32YA11pPDIk2P22M