

Rajiv Gandhi University of Health Sciences, Karnataka

Fourth Semester B. Pharm Degree Examination – 30-May-2023

Time: Three Hours

Max. Marks: 75 Marks

Pharmaceutical Organic Chemistry - III

Q.P. CODE: 5013

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary
All the Questions are compulsory.

LONG ESSAYS

2 x 10 = 20 Marks

1. a. Give the synthesis of Pyrrole by Knorr's method.
b. Explain the concept of aromaticity and resonance in Pyrrole.
c. Compare and explain the aromaticity of Pyrrole, Furan and Thiophene.

OR

Define configuration. Explain E-Z, D-L and R-S system of nomenclature to study configurations in stereo isomers.

2. Define racemization and racemic mixture? Describe various methods used in resolution of racemic mixture.

SHORT ESSAYS

7 x 5 = 35 Marks

3. Write the possible stereo isomers of Tartaric acid and identify the different types of isomers.

OR

What is Wolf-Kishner's reduction? Explain its mechanism and applications.

4. Explain the reactivity and orientation of pyridine towards nucleophilic substitutions.

OR

Discuss conformational isomers in n-butane and their relative stability.

5. Write two methods of synthesis and chemical reactions of Thiazole.
6. **Explain Schmidt rearrangement, giving the mechanism involved.**
7. Define and explain with examples on stereo specific and stereo selective reactions.
8. Explain partial asymmetric synthesis with examples.
9. Write two methods of synthesis and chemical reactions of Pyrimidine.

SHORT ANSWERS

10 x 2 = 20 Marks

10. Write one methods for the synthesis of Isoquinoline.
11. Write the structure and medicinal uses of any two Quinoline derivatives.
12. Draw the conformations of Ethane. Which isomer is more stable, why?
13. Write the structure and medicinal uses of any one Pyrazole and imidazole.
14. Which is more basic, Pyrazole or Imidazole? Give reasons why?
15. What is Dakin's reaction? Give an example.
16. What are diazines? Give the name and structure of isomeric diazines.
17. How does Pyrrole undergo? is) Mannich's reaction ii) Vilsmeier's reaction
18. What are Atropisomerim? Illustrate with an example.
19. Differentiate between Chiral and Achiral molecules, give examples.
