

# Rajiv Gandhi University of Health Sciences, Karnataka

Fourth Semester B. Pharm Degree Examination – 11-Nov-2021

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. What are symmetric and asymmetric molecules? Explain asymmetric synthesis.

**OR**

Discuss the methods used to determine the configuration of geometrical isomers.

2. Give the methods of synthesis and chemical reactions of Furan and Thiophen

### SHORT ESSAYS

7 x 5 = 35 Marks

3. Write a note on R&S system of configuration.

**OR**

Describe the reaction of chiral molecules in which bonds to the chiral centre are broken.

4. Discuss conformation isomers in n-butane.

**OR**

Write a note on basicity and reactivity of Pyrrole.

5. Explain the relative aromaticity and reactivity of Furan in contrast to Thiophene and Pyrrole.  
6. Write synthesis and reactions of Imidazole.  
7. Write the synthesis and reactions of Pyridine.  
8. Explain the mechanism involved in Claisen-Schmidt condensation.  
9. Write the Birch reduction reaction.

### SHORT ANSWERS

10 x 2 = 20 Marks

10. Define centre of symmetry with example.  
11. What are Meso compounds? Give example.  
12. What are Atropisomerism? Write the example.  
13. Define Stereoselective reaction with example.  
14. Write the resonance structures of Pyrrole.  
15. Write the structure and medicinal uses of Thiophene derivative.  
16. Write any one method of synthesis of Pyrazole.  
17. Write the basic structure and uses of Purine.  
18. Give the structure and use of Sodium Borohydride ( $\text{NaBH}_4$ ).  
19. What is Oppenauer-oxidation reaction?

\*\*\*\*\*