

# Rajiv Gandhi University of Health Sciences, Karnataka

## I Year B. Pharm Degree Examination – 05-Jun-2023

**Time: Three Hours****Max. Marks: 70****PHARMACEUTICAL ORGANIC CHEMISTRY – I (RS-4)****Q.P. CODE: 2628**

Your answers should be specific to the questions asked  
Draw neat, labeled diagrams wherever necessary

**LONG ESSAYS (Answer any Two)****2 x 10 = 20 Marks**

1. What are cycloalkanes? Explain in detail Bayer's strain theory and theory of stainless rings
2. Explain rearrangement of carbocation and factors affecting  $S_N2$  and  $S_N1$  reaction
3. What is hyperconjugation? Explain stability of dienes. Write the mechanism of 1,2 and 1,4 addition reactions with example

**SHORT ESSAYS (Answer any Six)****6 x 5 = 30 Marks**

4. What are polynuclear hydrocarbons? Write the chemical properties of phenanthrene
5. Explain Benzoin condensation
6. What is Sandmeyer reaction? Give an example with its application.
7. Give statement for Markonikov's rule and write its mechanism
8. Explain allyl radical as a resonance hybrid, explain its stability
9. What are Friedel craft's alkylation and acylation? Give the mechanism of any one.
10. Discuss Cannizzaro reaction with mechanism
11. Explain effect of substituents on acidity of carboxylic acids

**SHORT ANSWERS****10 x 2 = 20 Marks**

12. Write the structural formula of a) 4-Chloro-3-methyl hexanoic acid    b) Pyrogallol
13. Write the order of stability of free radicals
14. Define electrophiles and nucleophiles with example
15. What are  $S_N1$  and  $S_N2$  reactions?
16. What is Gattermann reaction?
17. What are amines? Give example
18. Write the IUPAC names of    a) Isobutylene    b) Acetylene
19. What are activating groups? Give example
20. Define dipole moment with example
21. Define protic solvents

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