

**Rajiv Gandhi University of Health Sciences, Karnataka**  
**Second Semester B.Pharm Degree Examination – 16/Oct/2025**

**Time: Three Hours**

**Max. Marks: 75 Marks**

**Pharmaceutical Organic Chemistry-I**  
**Q.P. CODE: 5006**

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. Explain electrophilic addition mechanism involved in the following.  
a) Addition of Hydrogen Bromide to propene.  
b) Addition of Hydrogen bromide to 1,3-butadiene  
**OR**  
Explain the following with mechanisms  
a) Perkin condensation  
b) Benzoin condensation
2. Explain kinetics, mechanism, order of reactivity and stereochemistry of  $SN^1$  reaction.

**SHORT ESSAYS**

**7 x 5 = 35 Marks**

3. Explain mechanism of Halogenation of alkane.  
**OR**  
Discuss the stability of conjugated dienes.
4. What is isomerism? Discuss structural isomerism with examples.  
**OR**  
What is Aldol condensation reaction? Write the reaction mechanism
5. Write note on a)  $SP^3$  hybridization b)  $SP^2$  hybridization
6. Explain cannizzaro reaction with mechanism.
7. Write the general rules for IUPAC nomenclature of alkyne
8. Enlight the concept of rearrangement of carbocation with suitable examples.
9. Write the structure and uses a) Acetyl salicylic acid b) Hexamine c) Trichloroethylene  
d) Ethanolamine e) Benzoic acid

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

10. What is Peroxide effect?
11. What is cross cannizzaro reaction?
12. Define carbanion with example.
13. Write a note on ozonolysis with example.
14. Write structure and uses of a) Vanillin b) Propylene glycol
15. Write structures and IUPAC name a) Formic acid b) Neopentane
16. Write qualitative test a) Paraldehyde b) Ethyl alcohol
17. Give an example of Diel's alder reaction.
18. Write the structure and uses of iodoform and oxalic acid.
19. Define inductive effect give examples.

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