

# Rajiv Gandhi University of Health Sciences, Karnataka

## I Year B. Pharm Degree Examination – 10-Jan-2020

**Time: Three Hours****Max. Marks: 70 Marks****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. a) Discuss the mechanism and stereochemistry of  $SN_1$  reaction.  
b) Explain the kinetics and mechanism of  $E_1$  reaction.
2. a) Explain the mechanism of halogenation of benzene.  
b) Halogens are deactivating group but ortho & Para director. Give reasons.
3. What happens when propene is treated with hydrogen bromide? Discuss the mechanism involved in the presence and absence of peroxide.

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

4. Define with example a) Angle strain b) Huckel's rule c) Poly nuclear hydrocarbons d) Electrophiles e) Nucleophiles.
5. What happens when isobutyl alcohol is treated with sulphuric acid? Discuss the mechanism.
6. Discuss the Bayer's strain theory with limitations.
7. Discuss allyl cation as resonance hybrid with orbital picture.
8. Outline the mechanism of Perkin's condensation.
9. Explain ionisation of carboxylic acid and write the structure of carboxylate anion.
10. Explain Cannizzaro condensation with mechanism.
11. Write the Haworth synthesis of naphthalene.

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

12. What is Williamson's synthesis? Give an example.
13. Write diazotisation reaction with example.
14. Define and classify nitrenes.
15. Write the stability of carbanion.
16. Write the difference between  $E_1$  and  $E_2$  reaction.
17. What is free radical substitution reaction? Give an example
18. Classify free radicals with examples.
19. Define functional and positional isomerism with example.
20. Write the structure and IUPAC name of a) Acetic acid b) Formamide
21. Write the structure of a) Aniline b) o-cresol

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