

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year Pharm-D Degree Examination – NOV 2016

Time: Three Hours

Max. Marks: 70 Marks

## PHARMACEUTICAL ORGANIC CHEMISTRY

**Q.P. CODE: 2877**

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. Explain Bayer's strain theory of Cycloalkanes along with its merits and de-merits. Write a note on theory of strainless rings.
2. Explain  $S_N1$  and  $S_N2$  reaction with emphasis on:  
(a) Mechanism (b) Kinetics (c) Stereochemistry
3. Explain the mechanism of:  
a) Dehydrohalogenation of alkyl halides  
b) Chlorination of methane

### SHORT ESSAYS (Answer any six)

6 x 5 = 30 Marks

4. Explain Aldol condensation with mechanism.
5. Explain the basicity of amines.
6. Explain the mechanism of nitration of benzene.
7. Discuss Markovnikov's rule with the mechanism involved.
8. What is Hoffmann rearrangement? Write its mechanism.
9. Explain the dehydration of alcohols with mechanism.
10. Explain the effects of substituents on the acidity of carboxylic acids.
11. Write the preparation and uses of Sodium Lauryl Sulphate and Mephensin.

### SHORT ANSWERS

10 x 2 = 20 Marks

12. Which is more stable: trans-2-butene or cis-2-butene? Why?
13. Write the classification of free radicals with examples.
14. Write the IUPAC name of isopropyl alcohol and Neopentane.
15. Which is having higher boiling point; ethanol or dimethyl ether? Why?
16. What is polar protic solvent? Give two examples.
17. Define the terms: "Polarity" and "Isomerism".
18. What is Aldol condensation? Write the reaction.
19. What is diazotisation? Write an example.
20. State the uses of Ethylene chloride and Tartaric acid.
21. How will you convert acetaldehyde to acetic acid?

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