



# Rajiv Gandhi University of Health Sciences, Karnataka

## I Year Pharm-D Examination – NOV 2016

**Time: Three Hours****Max. Marks: 70 Marks**

### PHARMACEUTICAL ORGANIC CHEMISTRY

### Q.P. CODE: 2854

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) What are alkenes? Give the rules for their nomenclature with examples.  
b) Explain the addition of carbenes to alkenes.
2. What is meant by orientation and reactivity on aromatic rings? Discuss the orientation effect in nitrobenzene and chlorobenzene.
3. Explain  $S_N2$  reactions with reference to  
a) Mechanism b) Stereo chemistry c) Structure of substrate d) Role of solvents.

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

4. Define dehydrohalogenation. Write the reactivity and orientation in  $E_1$  reaction.
5. Explain the mechanism involved in  
a) Cannizzaro's reaction  
b) Friedel-Craft's acylations
6. Give the synthesis, assay and uses of Sachharin Sodium.
7. Explain the basicity of Amines.
8. Write a note on phase transfer catalysis.
9. Giving mechanisms explain the Markonikov's rule and Anti-Markonikov's rule.
10. Define acidity. Explain the effect of substituents on the acidity of the carboxylic acids.
11. Give the synthesis and uses of Aspirin. How it is tested for the presence of free Salicylic acid?

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

12. Define dipole moment. Why dipole moment of  $CCl_4$  is zero?
13. What is Knoevenagel's reaction? Give one example.
14. Define protic and aprotic polar solvent with examples.
15. Write the structure of (a) Methyl 4-oxopentanoate (b) 5-Amino-3-hexanol.
16. What is optical isomerism? Give one example.
17. Why boiling point of the o-Aminophenol is lesser than the p-Aminophenol?
18. What is hyperconjugation? Give example.
19. Give the structure and uses of  
a) Citric acid b) Tartaric acid
20. What is 1, 2-hydride shift? Give example.
21. Define free radicals. Give examples.

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