

Rajiv Gandhi University of Health Sciences, Karnataka
I Year Pharm. D Degree Examination – Aug 2013

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. Answer all questions

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Define and give the mechanism of a. Cannizzaro reaction
b. Benzoin condensation.
2. State Markonikov's rule. Give the mechanism involved in addition of HBr to an unsymmetrical alkene in presence and absence of peroxide.
3. *Classify the substituents in electrophilic aromatic substitution reactions. Discuss the orientation and reactivity of*
(a) Hydroxyl group in Benzene (b) Nitro group in benzene, in electrophilic aromatic substitution reaction

SHORT ESSAYS (Answer any Six)

6 x 5 = 30 Marks

4. Write the structure and uses of Aspirin, Citric acid and Paraldehyde.
5. Discuss about 1,2-addition and 1,4-addition.
6. Explain SN² reaction with emphasis on its mechanism and stereochemistry.
7. Discuss Friedel Craft's alkylation with its limitations.
8. Explain the mechanism of dehydrohalogenation of alkyl halides.
9. Give the mechanism of Hoffman's degradation.
10. Write the mechanism involved in nitration of benzene.
11. Write a note on effect of substituents on the acidity of carboxylic acids.

SHORT ANSWERS

10 x 2 = 20 Marks

12. Define keto-enol isomerism with examples.
13. Outline the conversion of aniline to benzoic acid.
14. Define an electrophile with examples.
15. Name the following compounds
a. (CH₃)₄ C
b. CH₂=CH-CH₂-CHO
16. Which is more stable trans-2-butene or cis-2-butene? Why?
17. State the Lewis theory of Acids and bases with examples.
18. *Give the method of preparation of Dimercaprol.*
19. *Write the resonance structures of benzyl radical.*
20. Which of the following has a higher boiling point and why? C₂H₅OH or CH₃OCH₃
21. What is Homolysis and Heterolysis?
