Rajiv Gandhi University of Health Sciences, Karnataka

I Year Pharma-D Examination - June 2014

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 conjugated dienes? Give reasons for their stability and explain
   b) Discuss 1, 2 and 1, 4 additions to conjugated dienes giving examples with mechanism
2. a) What are E_2 and SN_2 reactions? Give examples. Explain their mechanism
   b) Discuss E_2 versus SN_2 with reference to the structure of substrate
3. Explain the following with mechanism a) Peroxide effect b) Cannizzaro's reaction c) Sulphonation of benzene

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

4. What are alkenes? Give the rules for the nomenclature of alkenes with examples
5. Explain Aldol condensation with its mechanism. Add a note on crossed Aldol condensation
6. Give the principle with reactions involved in the assay of – a) Dimercaprol b) Chlorbutol
7. What are Friedel-Craft's acylations? Give the mechanism involved. Why are they superior to F.C. alkylations?
8. Discuss Baeyer's strain theory and its limitations
9. What are activating and deactivating groups? Classify them with examples. Give one method for the determination of reactivity effects
10. What is nucleophilic acyl substitution? Give examples. Discuss the mechanism involved
11. Give the synthesis and uses of a) Citric acid b) Aspirin

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

12. Give the structure of a) 4-Methyl-3-Hexen-3-ol b) 2, 4-Dichloro-2-hydroxy-3-pentanone
13. Arrange the order of acidity and give reasons – Acetic acid, Propanoic acid, Chloro acetic acid
14. What are cyclo addition reactions? Give an example
15. Define acids and bases based on Lowry-Bronted and Lewis theories
16. Give the structure and uses of – a) Paraldehyde b) Vanillin
17. "Ortho nitrophenol is more steam volatile than its para isomer" – Explain why?
18. Write a note on chain inhibitors in the halogenation of alkanes
19. Write about heat of hydrogenation and stability of alkenes
20. Comment on – "Cis and Trans isomers of Dichloro ethylene differ in their dipole moments"

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21. Complete the reactions a) $C_6H_5CHO + (CH_3CO)_2O \xrightarrow{CH_3COONa}$?

b) $C_6H_5CH_2OH + C_6H_5COOH \xrightarrow{Conc.\ H_2SO_4}$?

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