

Rajiv Gandhi University of Health Sciences, Karnataka

I Year Pharma-D Examination – Jan 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

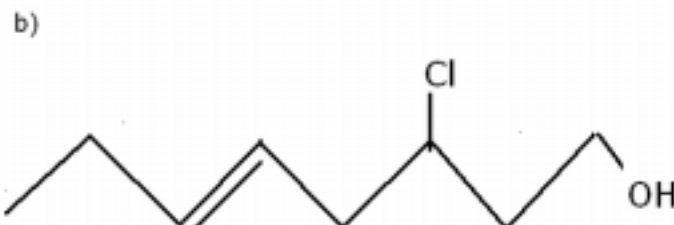
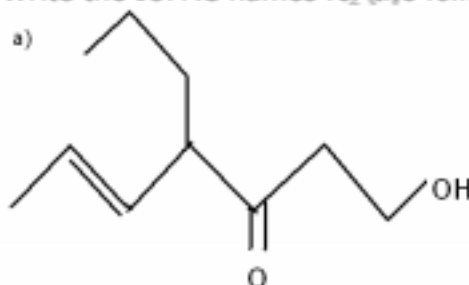
1. a) Discuss the S_N1 reactions with reference to
i) Mechanism ii) Stereo chemistry iii) Rearrangements
b) Write mechanism involved in E_1 and E_2 reaction.
2. Explain the following with mechanism:
(a) Cannizzaro's reaction (b) Perkin's condensation (c) Benzoin condensation.
3. a) Explain the concept of electron release via resonance with an example.
b) Explain the mechanism of Friedel Craft's alkylation and sulphonation.

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

4. Define free radicals. Give the mechanism for free radical chain reactions of alkanes.
5. Write notes on: a) intermolecular forces b) Hydrogen bonding and its effect on solubility.
6. Explain 1, 2 and 1,4-electrophilic addition in conjugated dienes.
7. What are alkenes? Give the rules for the nomenclature of alkenes with examples.
8. Explain: a) Peroxide effect with mechanism b) Addition of carbenes to alkenes
9. Give the preparation and uses of Glyceryl trinitrate and Aspirin.
10. What are carbocations? Discuss their classification and stability.
11. Explain the effect of substituents on the acidity of carboxylic acids.

SHORT ANSWERS
10 x 2 = 20 Marks

12. Indicate the direction of dipole moment for the following: a) Nitrogen trifluoride b) water
13. Arrange the following in the increasing order of acidity: H_2O , H_2S , NH_3 , H_2SO_4 .
14. What is crossed Aldol condensation? Give the equation.
15. How will you assay Chlorbutol?
16. Write the IUPAC names for the following.



17. What are ring activators? Classify them.
18. Draw the cis- and trans- Geometrical isomers of 2-methyl-3-heptene.
19. Give the structure and uses of : a) Mephensin b) Saccharin sodium
20. Explain why aldehydes undergo nucleophilic additions faster than ketones
21. Give the structure and IUPAC name for: (a) Ethyl acetate (b) Lactic acid.
