Rajiv Gandhi University of Health Sciences, Karnataka

I Year Pharm-D Examination – JAN-2019

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 SN_1 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 in aromatic hydrocarbons.

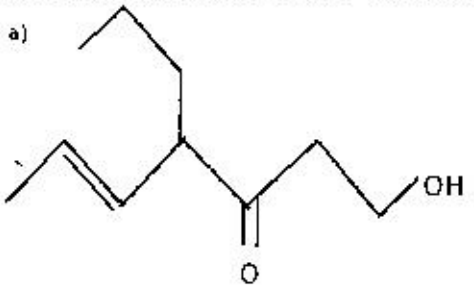
SHORT ESSAYS (Answer any Six) **6 x 5 = 30 Marks**

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) Preoxide 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.

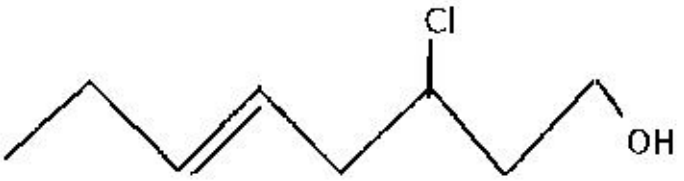
SHORT ANSWERS **10 x 2 = 20 Marks**

12. Indicate the direction of dipole moment for the following:a) Nitrogen triflouride 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 reaction.
15. How will you assay Chlorbutol?
16. Write the IUPAC names for the following.

a)



b)



17. What are ring activators? Classify them.
18. Draw the cis and trans isomers of 2-methyl-3-heptene.
19. Give the structure and uses of :a) Mephenesin 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.

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