

Rajiv Gandhi University of Health Sciences, Karnataka
I Year Pharm-D Degree Examination - 17-Nov-2021

Time: Three Hours

Max. Marks: 70 Marks

PHARMACEUTICAL ORGANIC CHEMISTRY (RS2)
Q.P. CODE: 2877

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. Explain the mechanism involved in the SN_1 , SN_2 , E_1 and E_2 reactions with suitable example.
2. Name the reaction and mechanism involved in the synthesis of beta-Hydroxyaldehyde and alpha-Hydroxy ketones.
3. What are Ortho Para and Meta directing groups? Classify and explain the effect of $-NO_2$ and $-Cl$ groups on benzene for further substitution reaction.

SHORT ESSAYS (Answer any six)

6 x 5 = 30 Marks

4. What are Isomers? Classify with example.
5. Explain stereochemistry of SN_1 and SN_2 reaction.
6. What happens when asymmetric alkenes reacts with HX in presence of peroxide?
7. Give the reaction and mechanism involved in sulphonation to benzene.
8. How to convert carboxylic acids to Acid chlorides, Amides. Esters and Anhydrides.
9. Give the structure and IUPAC name of following compounds Formic acid, Acetone, Acetamide, Acetaldehyde and Ethyl acetoacetate.
10. Give any three methods of preparation and reactions of cycloalkanes.
11. Give the method of preparation assay and uses of Methyl salicylate.

SHORT ANSWERS

10 x 2 = 20 Marks

12. What are acids and bases according to Lewis theory?
13. What are Aprotic solvents? Give example.
14. What are carbocations and classify?
15. Give orientation of HX in markownikoff rule.
16. What are carbenes and classify?
17. What are conjugated dienes give example?
18. Write the Claisen condensation reaction.
19. Give the resonance structure of benzyl radical.
20. Give the products when 1, 3-Butadiene reacts with HX at higher temperature.
21. Give the structure and uses of vanillin.
