

Rajiv Gandhi University of Health Sciences, Karnataka

I Year Pharm-D Degree Examination – 05-Jun-2024

Time: Three Hours

Max. Marks: 70

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. a) What is Electrophilic aromatic substitution reaction? Discuss the mechanism of Nitration of benzene.
b) Explain the mechanism of Friedel-Craft's alkylation.
2. What are elimination reactions? Discuss the kinetics, mechanism, orientation and reactivity of E1 reaction.
3. What do you mean by SN1 and SN2 reactions? Explain the mechanism, kinetics and stereochemistry of SN1 reaction.

SHORT ESSAYS (Answer any six)

6 x 5 = 30 Marks

4. Explain the mechanism chain reaction in alkanes with suitable example.
5. Why carboxylic acids are acidic in nature? Write the effect of electron withdrawing groups on acidity.
6. Discuss the mechanism of 1,2 & 1,4 addition reaction in dienes with examples
7. What is peroxide effect? Write its mechanism.
8. Explain the factors affecting nucleophilic aliphatic substitution reaction
9. Discuss the mechanism of Beckmann rearrangement
10. Discuss the stability of Cycloalkanes.
11. Explain stability of Conjugated dienes.

SHORT ANSWERS

10 x 2 = 20 Marks

12. Define functional and positional isomerism with example
13. Define protic and aprotic solvents.
14. Write the structure and IUPAC name of a) Acetone b) Diethyl ether
15. Define polarity with examples.
16. Compare free radical substitution with free radical addition.
17. Define Cannizzarro reaction. Give one example.
18. Write the effects of substitutions on acidity of Phenols.
19. Write Hoffman's rearrangement reaction.
20. Give one example of oxidation - reduction reaction.
21. Write structure and uses of Aspirin.
