

Rajiv Gandhi University of Health Sciences, Karnataka

I Year Pharm-D Degree Examination – MAY 2017

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. What are nucleophilic aliphatic substitution reactions? Explain the mechanism, kinetics, factors affecting, stereochemistry for these reactions with example.
2. Why $-NH_2$ group is activating and ortho, para directing while $-NO_2$ group is deactivating and meta directing? Explain.
3. Explain why 1,3 - Pentadiene is more stable than 1,4 - Pentadiene.

SHORT ESSAYS (Answer any six)

6 x 5 = 30 Marks

4. Explain chlorination of methane with mechanism.
5. Explain Bayer's theory for stability of cycloalkanes.
6. What happens when propene is treated with HBr in the presence and in the absence of peroxide? Give the mechanisms.
7. Describe Friedel Craft's Alkylation with mechanism.
8. Explain the reaction mechanism of Aldol condensation.
9. Compare the acidity among formic acid, acetic acid and trichloroacetic acid.
10. Give the evidence for E2 mechanism.
11. Explain Diel's Alder reaction with example.

SHORT ANSWERS

10 x 2 = 20 Marks

12. Define polarity and dipole moment with examples.
13. What are protic and aprotic solvents? Give examples
14. Write the structure and IUPAC names of a) Chloroform b) Acetic acid
15. Explain Lewis theory of Acids and Bases.
16. Give one example of free radical halogenation of alkenes.
17. Write Reformatsky reaction.
18. Discuss acidity of phenols.
19. Which are more basic; aliphatic or aromatic amines? Give reason.
20. Give one example of nucleophilic aromatic substitution.
21. Write the structure and uses of a) Vanillin b) Nitroglycerin
