Rajiv Gandhi University of Health Sciences, Karnataka
I Year B.Pharm Degree Examination – 21-Jun-2022

Time: Three Hours   **Max. Marks: 70 Marks**

PHARMACEUTICAL ORGANIC CHEMISTRY – I (RS-3)
Q.P. CODE: 2604

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. Discuss Bayer's strain theory along with molecular orbital structure. Give any two preparations of cycloalkanes.

2. Discuss the mechanism of addition of hydrogen bromide to unsymmetrical alkenes in presence and absence of peroxides.

3. What are activating and deactivating groups? Explain the mechanism of nitration and halogenation of benzene.

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

4. Why amines are basic? Explain the effect of substituents on the basicity of amines.
5. Give the mechanism of Knoevenagel's and Reformat sky reactions.
6. Discuss the stability of allyl radical with its orbital picture.
7. Write the mechanism and stereochemistry of S_N2 reaction.
8. What is Saytzeff's rule? Give example with mechanism.
9. Discuss diazotization and diazo coupling reactions.
10. What is isomerism? Discuss different types of isomerism with examples.
11. Explain the factors that affect S_N1 reaction.

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

12. What are aprotic solvents? Give examples.
13. Define free radicals.
14. Give the IUPAC names for acetone and chloroform.
15. Define nucleophile. Give examples.
16. Among acetic acid and chloroacetic acid, which is more acidic and why?
17. Enlist ortho-para directing groups.
18. How do you convert benzoic acid into ethyl benzoate?
19. What is Smith Rearrangement? Give example.
20. What are conjugated dienes? Give example.
21. State Huckel's rule with examples.

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