

# Rajiv Gandhi University of Health Sciences, Karnataka

## I Year B. Pharm Degree Examination – 23-Mar-2021

**Time: Three Hours****Max. Marks: 70 Marks****PHARMACEUTICAL ORGANIC CHEMISTRY – I (RS4)****Q.P. CODE: 2628**

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 elimination reactions? Discuss the kinetics, mechanism, orientation and reactivity of  $E_1$  reaction.
2. a) Explain the mechanism of Friedel-Craft alkylation with their limitations.  
b) Discuss the orientation effect of i) Hydroxyl group in benzene ii) Nitro group in Benzene.
3. a) Define and classify carbocation. Add a note on stability of carbocation.  
b) Discuss the mechanism and stereochemistry of  $SN_1$  reaction.

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

4. Write the difference between  $SN_1$  And  $SN_2$  reactions.
5. Write any three methods of preparation of cycloalkanes.
6. Explain the mechanism of 1,2- and 1,4-additions in conjugated dienes.
7. Discuss the mechanism involved in Benzoin condensation.
8. Explain esterification reaction with mechanism.
9. Discuss the mechanism for addition of hydrogen bromide to propene in presence of peroxides.
10. Explain Cannizzaro condensation with mechanism.
11. Write the Howarth synthesis of naphthalene.

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

12. Define and classify Carbenes with examples.
13. What is homolytic fission? Give example.
14. What is keto-enol tautomerism? Give example.
15. Write the halogenation of methane.
16. Write the structure and IUPAC name of: a) *tert*-Butyl chloride b) Formamide.
17. State the Saytzeff's rule.
18. Define diazotization reaction with an example
19. What happens when Grignard reagent reacts with ketone?
20. Write the structures of: a) Methyl salicylate b) *m*-Dinitrobenzene
21. What is Williamson's synthesis? Write an example.

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