



[Time: 3 Hours]

[Max. Marks: 100]

**ADVANCED ORGANIC CHEMISTRY**

**(RS 2 & RS 3)**

**Q.P. CODE: 9202**

Your answers should be specific to the questions asked.  
Draw neat labeled diagrams wherever necessary.

**LONG ESSAY (Answer any TWO)**

**2 X 20 = 40 Marks**

1. What are carbocation? Classify with example write the reaction in which they generated. Explain the stability of carbocation.
2. Give one synthesis and an example of medicinal agent belonging to the following heterocyclic ring system a) Thiazoles b) Isoxazoles c) Benzimidazole d) Purine.
3. Discuss the nucleophilic aliphatic substitution reaction. Write  $SN_1$  and  $SN_2$  mechanism, kinetic energy and stereochemistry.

**SHORT ESSAY (Answer any FIVE)**

**5 X 10 = 50 Marks**

4. Write the methods of synthesis and applications of acetoacetate esters.
5. What is Grignard reagent? Write the mechanism of reaction involving Grignard reagent and its synthetic applications?
6. Discuss the mechanism and synthetic applications of aldol condensation.
7. Write the synthetic route for Quinoline and Quainazoline.
8. Explain the stereochemistry of steroids.
9. Explain the oxidation reduction reaction, reagents used, mechanism and applications

**SHORT NOTES**

**2 X 5 = 10 Marks**

10. Microwave irradiation techniques.
11. Hyperconjugation.

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