



[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. Answer all questions

**LONG ESSAY (Answer any TWO)**

**2 X 20 = 40 Marks**

1. a) Discuss in detail the mechanism of nucleophilic substitution reaction taking suitable examples. Critically discuss the factors that affect the rates of SN1 and SN2 reaction.  
b) Comment on the kinetics of NSR
2. a) Discuss the chemistry of phenothiazine derivatives of pharmaceutical importance. Explain the synthesis for a drug with phenothiazine nucleus  
b) Add a note on pyrroles
3. a) Mention the importance of oxidation reaction in organic synthesis. Illustrate your answer with oppeneauer oxidation  
b) Microwave irradiation techniques

**SHORT ESSAY (Answer any FIVE)**

**5 X 10 = 50 Marks**

4. Discuss free radical addition reaction by initiation of peroxide. Write a note on free radical polymerization of alkenes
5. Discuss the formation, structure, stability and reactions involving the carbocation
6. Explain the mechanism involved in E1 and E2 reactions with suitable examples
7. Describe the synthesis of any four drugs containing six membered heterocyclic ring
8. Give the methods of synthesis and applications of acetoacetic ester
9. Explain the mechanism of catalytic hydrogenation with suitable examples

**SHORT NOTES**

**2 X 5 = 10 Marks**

10. Write the mechanism involved in pericyclic reaction with example
11. Techniques used in stereomeric separation and their applications

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