

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) Explain in detail with mechanism about pinacol-pinacolone rearrangement.  
b) what do you mean by cine substitution? Discuss the mechanism involved with suitable examples.
2. a) Define free radical. Explain in detail the formation of free radical. Explain in detail reaction involving free radicals.  
b) Discuss the mechanism involved in Benzoin condensation and perkin reaction.
3. a) Give an account of ring expansion with appropriate examples  
b) Discuss the Mechanism of Hoffmann rearrangement with suitable examples.

**SHORT ESSAY (Answer any FIVE)****5 X 10 = 50 Marks**

4. Write about trans – annular rearrangements with suitable examples.
5. What are nitrenes? Discuss the mechanism involved in curtius reaction schmidt & lossen rearrangement.
6. Discuss the principle involved in phase transfer catalysis with appropriate example
7. What do you mean by sigmatropic rearrangement the synthetic applications of sigmatropic rearrangement.
8. Discuss the mechanism involved diels – alder reaction using molecular orbital method
9. Write a note on combinatorial chemistry

**SHORT NOTES****2 X 5 = 10 Marks**

10. Discuss the formation structure and stability of Carbocations.
11. Free radicals.

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