

**❖ Problems**

- Q 1. What are aliphatic nucleophilic substitution reactions? Name various types.
- Q 2. What are the major differences between  $SN_1$  and  $SN_2$  reactions?
- Q 3. Describe neighboring group participation? How does  $\sigma$ -bond can also place the same role?
- Q 4. Define anchimeric assistance. Discuss with suitable examples.
- Q 5. Discuss the stability of classical and non-classical carbocations.
- Q 6. What are meso-phenonium ions? How are they different from  $C_2$ -symmetric phenonium ions?
- Q 7. Give major rearrangement reactions of classical carbocations.
- Q 8. Write a short note on the  $SN_1'$  mechanism with special emphasis on its relative study with normal  $SN_1$ .
- Q 9. Discuss the effect of substrate structure on the reactivity of nucleophilic substitution reactions.
- Q 10. What are nucleophiles? How does their strength affect the rate of nucleophilic substitution reactions?
- Q 11. Discuss ambident nucleophiles?
- Q 12. State and explain regioselectivity.
- Q 13. What is phase transfer catalysis?
- Q 14. Discuss the applications of NMR spectroscopy in the structure determination of carbocations.
- Q 15. What is the 'single electron transfer (SET)' mechanism? Explain with suitable example.

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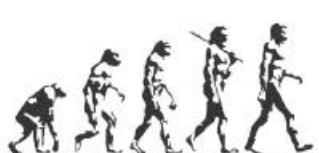
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# A TEXTBOOK OF ORGANIC CHEMISTRY

**Volume I**

**MANDEEP DALAL**



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