

2021

Time 3 hours

Full Marks : 70

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer any **five** questions.

1. (a) Define and explain Hard and Soft Acids and Bases.
- (b) Give an account of Hammond's Postulates. 6+8 = 14
2. Write brief notes on any **two** of the following :
- (a) Thermodynamic and Kinetic requirement
- (b) Structure and reactivity of carbocations
- (c) Curtin Hammett Principle 7+7 = 14

XD - 45/2

(Turn over)

3. Explain the Hammett equation and linear free energy relationship. 14
4. Explain mechanism of Claisen rearrangement and give its synthetic importance. 14
5. Describe cope rearrangement in detail. 14
6. What is Suprafacial and Antarafacial processes in sigmatropic reactions. 14
7. Give detail notes on aliphatic  $SE^2$  and  $SE^2$  reactions. 14
8. Write notes on the following : 7+7 = 14
- (a) Smiles rearrangement
- (b) The Von Richter rearrangement
9. Write notes on the following : 7+7 = 14
- (a) Auto oxidation
- (b) Hunsdiecker reaction
- (c) Sandmeyer reaction

XD - 45/2

(2)

Contd.

10. Explain any **two** of the following with proper example :  $7+7 = 14$

- (a) Type of free radical reactions.
- (b) Free radical rearrangement.
- (c) Neighbouring group assistance.



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XD - 45/2 (300)

(3)

SS(Sem-I) ✓  
Chem (3)

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