

(2)

2. Explain any **two** questions of the following :10+10
- (a) Effect of solvation on reaction rate
 - (b) Classification of solvents
 - (c) Hard and soft acids and bases
 - (d) Nucleophilic and Electrophilic catalysis
3. Explain the various types of steric strain and their influence on reactivity.
4. Explain any **two** of the following : 10+10
- (a) Curtin-Hammett Principle
 - (b) Isotope effect
 - (c) Structural effects on rates and selectivity
 - (d) Nucleofugacity
5. Factors affecting barrier heights in addition, regioselectivity in radical reactions. 20

Section-B

6. (a) Explain the systematic Nomenclature for monocyclic heterocycles.
- (b) Conformation of six membered heterocycles with reference to molecular geometry. 10+10
7. Explain any **two** of the following : 10+10
- (a) Attractive interaction—hydrogen bonding

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- (b) Two cyclization reaction for the synthesis of heterocycles
 - (c) Reaction of oxiranes
 - (d) Synthesis of thietanes
8. Synthesis and reactions of Benzopyrroles. 20
9. Write down the synthesis and reactions of chromones and pyrones. 20
10. Give the synthesis of any **two** of the following : 10+10
- (a) Azepines
 - (b) Triazines
 - (c) Azocines
 - (d) Benzothiophenes
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