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Class B.Sc. Sem II (Bio-Tech)
 Subject Organic Chemistry
 Paper – BT-4

Time Allowed : 3 Hours

Maximum Marks : 40

SECTION-A

Note:- Attempt All questions. Each question carries one mark.

1. Out of 1-Butyne and 2-Butyne which one is acidic and why?
2. Write the systematic name of 12-crown-4.
3. What reagent is used for Birch reduction and what major product will be formed from 2-Butyne in Birch reduction.
4. How lactic acid can be obtained from CH_3CHO ? Write complete reaction.
5. Write the structure of carbonyl group. Which type of reaction do you expect from carbonyl compounds?
6. Complete the reaction :- cyclohexanone + Glycol \rightarrow ?
7. $\triangle + \text{HBr} \xrightarrow{10^\circ\text{C}}$? Name the product.
8. $\text{C}_6\text{H}_5 - \text{O} - \text{CH}_3$ Which major product will be obtained



and why ?

SECTION-B

Note:- Attempt any five questions, each carrying four marks.

1. (a) Write mechanism for the formation of δ Lactone in detail.

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- (b) Why $\text{CH}_2=\text{CHO}$ get hydrated at a higher rate?
2. Give the structures, preparation methods and uses of divinyl ether and hexane.
 3. How enamines can be prepared? Write their synthetic utility in detail.
 4. How will you obtain (i) 1-Amino-2-propanol and (ii) Alanine from acetaldehyde?
 5. How addition of HBr takes place on alkynes? Discuss in detail.
 6. Nucleophilic addition of water to acetylene and propyne results in formation of which products? Give mechanism in detail.
 7. With which reaction you can differentiate between 2-Pentanone one and 3-Pentanone? Give mechanism and name the reaction.
 8. α, β -unsaturated carbonyl compounds can undergo 1, 2 and 1, 4 - addition reactions. Discuss in detail.

SECTION-C

Note:- Attempt any two questions each carrying six marks.

1. Discuss Diel⁵ Alder reaction in detail. Also discuss its relationship with orbital symmetry.
2. Explain the mechanism of Aldol condensation and Wittig reaction in detail.
3. What is esterification? Give mechanism. Also write evidences for the mechanism involved.
4. (a) Discuss ring opening reaction of unsymmetrical epoxide under acidic and basic conditions.
(b) Give a general epoxidation reaction.