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Roll No.

B PHARM
(SEM-II) THEORY EXAMINATION 2018-19
PHARMACEUTICAL CHEMISTRY-II
(ORGANIC CHEMISTRY-I)

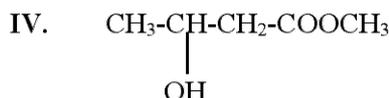
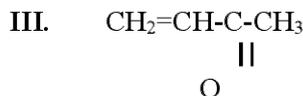
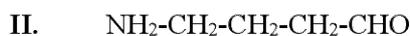
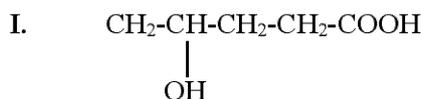
*Time: 3 Hours**Total Marks: 100*

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.
 2. Any special paper specific instruction.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

- a. What is Inductive effect?
- b. What do you mean by Hybridization?
- c. What is Covalent and electrovalent bond?
- d. Write about orbital and molecular orbital theory.
- e. What is Intermolecular and intramolecular hydrogen bonding?
- f. Compare in between Enantiomers and Diastereomers.
- g. Write a note on Newmann conformations of n-butane and propane.
- h. What do you mean by Resonance?
- i. Write about E and Z isomerism with examples.
- j. Give IUPAC name of following,

**SECTION B**

2. Attempt any three of the following: 10 x 3 = 30

- a. Write various preparation methods and applications of $\text{CH}_3\text{CH}_2\text{MgBr}$.
- b. Write about preparation and chemical reactions of β -hydroxy butyric acid and oxalic acid.
- c. Write about preparation, chemical reactions and uses of dicarboxylic acids
- d. Write in detail about Nucleophilic addition reactions of carbonyl compounds.
- e. How will you convert the following:-
 - i. Cyclopropane to propane
 - ii. 1-propanol to 2-propanol
 - iii. Toluene to xylene
 - iv. Toluene to benzotrichloride

SECTION C

3. Attempt any *one* part of the following: 10 x 1 = 10
- a. Write a note on the structure of benzene. Explain, why OH group is ortho, para directing while NO₂ group is meta directing?
 - b. Write different chemical reaction given by toluene. Discuss about the acidity of phenols.
4. Attempt any *one* part of the following: 10 x 1 = 10
- a. Write various method of synthesis and chemical reactions given by aliphatic amines.
 - b. Write in detail about isomerism with suitable examples
5. Attempt any *one* part of the following: 10 x 1 = 10
- a. Classify dienes. Give the method of preparation of conjugated dienes. Discuss 1,2 and 1,4 addition in conjugated dienes.
 - b. Give the mechanism of electrophilic addition reactions. Give reaction of 2-butene with boron, dil. KMnO₄ and ozone. Give reaction of acetylene with NaNH₂, HCl and Br₂.
6. Attempt any *one* part of the following: 10 x 1 = 10
- a. Write about SN¹ and SN² reactions. Write about the effect of oxidation on primary, secondary and tertiary alcohols.
 - b. Write about preparation, chemical reactions and uses of monocarboxylic acids.
7. Attempt any *one* part of the following: 10 x 1 = 10
- a. How an electrophilic substitution reaction does takes place in benzene. Write about importance of nitration reaction in benzene.
 - b. Explain the following;
 1. Primary alcohol undergo oxidation where as tertiary alcohols do not.
 2. The more substituted the alkenes, the faster it is formed.
 3. Anti-Markovnikov's addition in alkenes.
 4. Various methods of preparation of alkanes.