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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 Enatiomers 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,

I. CH_2-CH(OH)-CH_2-CH_2-COOH

II. NH_2-CH_2-CH_2-CH_2-CHO

III. CH_2=CH-C(=O)-CH_3

IV. CH_3-CH(OH)-CH_2-$COOCH_3$

SECTION B

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

a. Write various preparation methods and applications of CH_3CH_2MgBr.

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 tolune. 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. $KMnO_4$ and ozone. Give reaction of acetylene with $NaNH_2$, HCl and Br_2.

6. Attempt any *one* part of the following: 10 x 1 = 10

a. Write about SN^1 and SN^2 reactions. Write about the effect of oxidation on primary, secondry 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-Morkovnikov's addition in alkenes.
4. Various methods of preparation of alkanes.