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Sub Code: PHARM 122
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. Explain sp, sp^2 and sp^3 Hybridization.

c. What are co-ordinate, covalent and electrovalent bonds?

d. Explain molecular orbital theory.

e. What is sequence rule?

f. Compare in between enatiomers and diastereomers.

g. Write in detail about chain, positional and keto- enol isomerism with suitable examples.

h. Write about cis-trans isomerism with examples.

i. Write any one method of preparation of alkanes.

j. IUPAC name of following,

I. $CH_2=CH-CH=CH_2$

II. $HOOC-CH_2-CH_2-CH_2-COOH$

III. $OH-CH_2-CH_2-CH_2-OH$

IV. $CH_3-CH_2-CH_2-CH(OH)-COOC_2H_5$

SECTION B

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

a. Write about preparation and chemical reactions of β-hydroxy butyric acid and oxalic acid.

b. Write about preparation, chemical reactions and uses of dicarboxylic acids.

c. Write in detail about Nucleophilic addition reactions of carbonyl compounds.

d. Write various preparation methods and applications of Grignard reagent.

e. How will you convert the following;

I. 1-propanol to 2-propanol
II. Cyclopropane to propane
III. Toluene to benzotrichloride
IV. Toluene to xylene

SECTION C

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

a. 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.

b. Discuss dehydration and dehydrogenation reactions with their importance. Write about SN^2 mechanism.

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

a. Write in detail about reactions of aldehydes and ketones.

b. Write various preparation methods, reactions and uses of Grignards reagents.

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

a. Establish the cyclic structure of benzene. Describe orientation in elctrophilic aromatic substitution.

b. Write different chemical reaction given by Phenols.

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. How an electrophilic substitution reaction does takes place in aromatic amines.write about Reimer-Tieman reaction.

7. 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. Explain the following;

I. Absolute configuration system.

II. The more substituted the alkenes, the faster it is formed.

III. Anti-Morkovnikov's addition in alkenes.

IV. Various methods of preparation of aldehydes.