Seat Number

* 1 8 2 4 *

W-19

BP 202 T

Pharmaceutical Organic Chemistry-I (Also Old Equivalence)(T 1.2.3) (712202)

P. Pages : 3

Time : Three Hours **Max. Marks : 75**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Figures to the right indicate full marks.

1. a) Choose the correct answer from the following. **10**

i) Bond angle associated with SP^3 hybridization is:
a) 120° b) 109.5°
c) 180° d) 90°

ii) What is the IUPAC name of Isobutane:
a) 2 – methyl propane b) 2 – methyl butane
c) t – butyl d) 1 – methyl propane

iii) Delocalized bonding will not be observed in:
a) 1, 3 – butadiene b) benzene
c) 1, 4 – pentadiene d) 1, 3, 5 – hexatriene

iv) Which group represents strongly activating group:
a) –OR b) $-NH_2$
c) –R d) $-NHCOCH_3$

v) Lucas test is used for identification of:
a) Alcohol b) Amine
c) Alkene d) Alkyne

vi) Oxidation of secondary alcohol gives:
a) Amine d) Ketone
c) Alkyl halide d) Alkene

vii) Reduction of nitro compounds will give:
a) Acid b) Amine
c) Ketone d) Alkyne

viii) Chemical name for CH_2Cl_2 is :

a) Chloroform
b) Chlorobutanol
c) Dichloromethane
d) Trichloro ethylene

ix) $R\text{-}CONH_2 \xrightarrow[Br_2]{NaoH} R\text{-}NH_2$, what is the name of this reaction.

a) Gattermann – Koch
b) Hoffmann – Bromamide
c) Reimer – Tiemann
d) Friedel craft alkylation

x) Keto – enol isomers are:

a) Tautomer
b) Positional isomer
c) Chain isomer
d) Geometrical isomer

b) Write the answers of the following: 10

i) Classify structural isomers with examples.

ii) Write in short a note on rate determining step in SN_1 reaction.

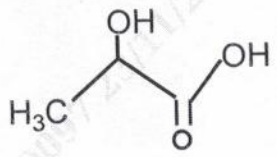
iii) Write two qualitative tests for primary amines.

iv) Draw the chemical structure of:

a) Benzoic acid

b) Methyl salicylate

v) Write the IUPAC name of following compounds:

a) 

b) $CH_3 - CH = CH - CHO$

2. Attempt **any two** of the following: 20

i) Define carboxylic acids. Write a note on acidity of carboxylic acids and effects of substituents on acidity?

ii) a) Differentiate between SN_1 and SN_2 reactions?

b) What is the role of stereochemistry in SN_2 reaction?

iii) Explain the following reactions with mechanism.

a) Crossed Cannizzaro reaction

b) Diel Alder reaction.

3. Attempt **any seven** out of the following: 35

i) Write a brief note on Markownikoff's rule and Hofmann elimination

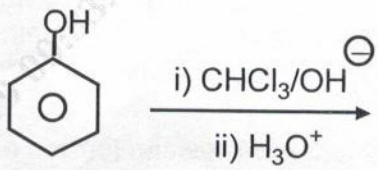
ii) Write in short about relative reactivities of alkyl halides on E_1 reaction.

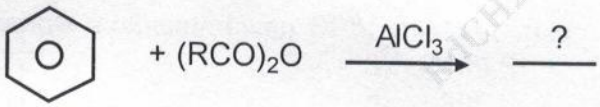
iii) Write five methods for preparation of aldehydes.

iv) Draw the chemical structure of citric acid and salicylic acid and enlist their uses.

v) Write a note on free radical addition reaction with mechanism for conjugate diene?

vi) Complete the following reactions:

a) 

b) 

c) $C_2H_5OH + CH_3COOH \xrightleftharpoons{H_2SO_4}$? + ?

vii) Describe in short how substituents effect the basicity of amines.

viii) Write a note on classification of organic compounds.

ix) Write nucleophilic addition reaction for aldehyde and Ketone.

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