W-2022

Seat Number | | | | | | |

PANKH-21

BP-202T

Pharmaceutical Organic Chemistry-I

(712202)

Total Pages : 4]

Time : 3 Hours

Max Marks : 75

Note : (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

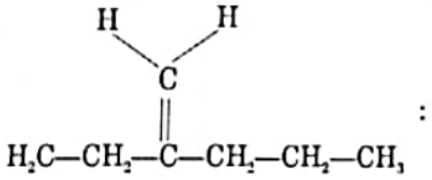
(*i*) The following molecule contains which functional group ?

CH_3–CH = CH–CH_3

(*a*) Alkene (*b*) Enol

(*c*) Imine (*d*) Nitrile

(*ii*) What is the name for the following compound



(*a*) 3-methylene hexane (*b*) 2-Propyl-1-butene

(*c*) 4-ethyl-4-pentene (*d*) 2-ethyl-1-pentene

P.T.O.

(iii) Which of the following carbonyl compound reacts mostly rapidly with Nucleophilic reagents ?

(a) Benzaldehyde (b) 1-Butanol

(c) Acetic acid (d) Phenol

(iv) Only one benzene ring is present in compound of :

(a) Aryl (b) Acryl

(c) Carboxylic acid (d) Ketone

(v) Element that is backbone of organic molecule is :

(a) Carbon (b) Hydrogen

(c) Oxygen (d) All of these

(vi) *n*-hexane on heating with CrO_3/Al_2O_3 at 600°C will give :

(a) Benzene (b) Toluene

(c) Phenyl (d) Ethyl benzene

(vii) $H_3C–C \equiv C–CH_3$ on reaction with H_2/Pt gives :

(a) Trans-2-butene (b) Cis-2-butene

(c) Butane (d) Isobutane

(viii) Reactivity order in SN^1 reaction is :

(a) 3° > 2° > 1° (b) 1° > 2° > 3°

(c) 2° > 1° > 3° (d) 1° > 3° > 2°

(ix) Structure of iodoform is :

(a) $CHCl_3$ (b) CHI_3

(c) CCl_4 (d) CH_2Cl_2

(x) Cannizzaro reaction products are :

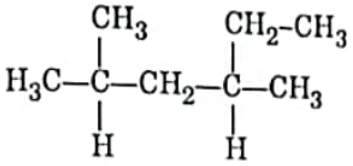
(a) 2-Ketone (b) One alcohol 2 one acid

(c) 2 aldehyde (d) 2 alcohol

(B) Write the answers of the following : 10

(i) Write SN^2 reaction with mechanism.

(ii) Write IUPAC name for the following compounds :

(a) 

(b) $CH_3-CH = CH-C \equiv CH$

(iii) Draw structure of the following compounds :

(a) Vanillin

(b) Benzaldehyde

(iv) Give any *two* methods of preparation for aldehyde.

(v) Give free radical addition reaction of alkenes.

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

(a) What are aldehyde & ketones ? Discuss any *two* methods for preparation & nucleophilic addition reaction for aldehyde & ketone.

(b) What is carboxylic acid ? Write any *two* methods of preparation & chemical reaction for carboxylic acid.

P.T.O.

(c) Explain the following reactions with mechanism :

(i) Perkin reaction

(ii) Aldol condensation

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

(a) What are alkene ? Give any three methods of preparation for alkene.

(b) How will you distinguish 1°, 2° & 3° alcohol ?

(c) Clarify organic compounds with suitable example.

(d) Discuss Basicity of amines.

(e) Draw structure of :

(i) Formaldehyde

(ii) Acetone

(iii) Butanoic acid

(iv) Aniline

(v) Acetaldehyde

(f) Write structure & uses of :

(i) Ethyl chloride

(ii) Chloroform

(iii) Dichloromethane

(iv) Iodoform

(v) Tetrachloromethane

(g) Write a brief note on Markovnikoff rule.

(h) Discuss the factors which affect SN^1 reaction rate.

(i) Distinguish between E_1 & E_2 reactions.