

c) 1,3 addition

d) 1,4 addition

vii) Which of the following is not a nucleophile?

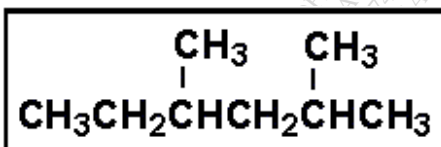
a) $C_2H_5O^-$

b) SCN^-

c) OH^-

d) CH_3^+

viii) Select the correct IUPAC name for



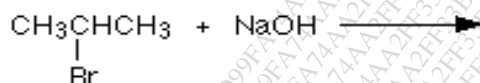
a) 1,1,3-trimethylpentane

b) 2,4-dimethylhexane

c) 3,5-dimethylhexane

d) 3,5,5-trimethylpentane

ix) What is the substitution product of the following reaction?



a) 2-propanol

b) ethanol

c) 1-propanol

d) propane

x) The nucleophilic substitution reaction in which rate of reaction depends upon concentration of only one reactant and rearrangement is possible is known as

a) E1 reaction

b) SN1 reaction

c) E2 reaction

d) SN2 reaction

xi) Lucas test is used to distinguish different types of

a) alcohols

b) aldehydes

c) ketones

d) amines

xii) Reduction of aldehyde gives

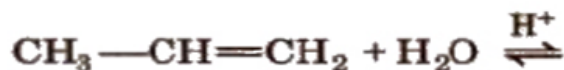
a) Primary alcohol

b) Secondary alcohol

c) Tertiary alcohol

d) Carboxylic acid

xiii) The major product of the following reaction is



a) 1-propanol

b) 2-propanol

c) Propyne

d) Isopropyl chloride

xiv) Reduction of ketone gives

- a) primary alcohol
b) secondary alcohol
c) tertiary alcohol
d) carboxylic acid
- xv) Addition of water to aldehyde gives.....
a) acetal
b) hydrate
c) cyanohydrin
d) oxime
- xvi) A mixture of benzaldehyde and formaldehyde on heating with aqueous NaOH solution gives
a) benzyl alcohol + sodium formate
b) sodium benzoate + methanol
c) benzyl alcohol + methanol
d) sodium benzoate + sodium formate
- xvii) The reaction of carboxylic acids with alcohols catalyzed by conc. H_2SO_4 is called ____
a) Dehydration
b) Saponification
c) Esterification
d) Neutralization
- xviii) Primary amines can be distinguished from secondary and tertiary amines by reacting with which of the following?
a) Chloroform and alcoholic KOH
b) Methyl iodide
c) Chloroform alone
d) Zinc dust
- xix) n-pentane, isopentane and neopentane are
a) functional isomers
b) Metamers
c) chain isomers
d) tautomers
- xx) The Hinsberg reagent is
a) benzenesulphonyl chloride
b) diethyl oxalate
c) zinc chloride
d) none of these

Q. 2. Solve the following questions. = $2 \times 10 = 20$ (Answer 2 out of 3)

- What is β – elimination? Explain the mechanism and orientation of E1 reaction. Compare between E1 and E2 reaction.
- Explain the mechanism and stereochemistry of SN2 reaction. Add a note on factors affecting SN2 reaction.
- Explain, why Aldehydes and ketones are susceptible for nucleophilic addition reactions? Give any two methods for preparation of aldehydes. Write a note on Perkin reaction.

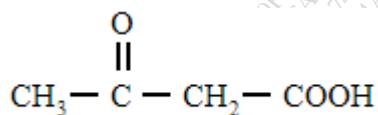
Q. 3. Answer the following questions. = $7 \times 5 = 35$ (Answer 7 out of 9)

- i) Explain the different types of structural isomerism with examples.
- ii) Explain the mechanism of halogenation of alkanes.
- iii) Explain the qualitative tests for alcohols.
- iv) Explain the addition of water and alcohol to aldehydes.
- v) Arrange the following compounds in order of increasing acidity and justify your answer.

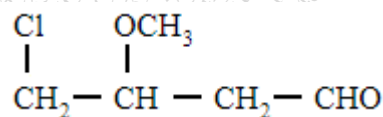
Chloroacetic acid, formic acid, acetic acid, dichloroacetic acid.

- vi) Give the structure and uses of acetic acid, lactic acid, formaldehyde, glycerol, ethyl alcohol and dichloromethane
- vii) Explain why aliphatic amines are more basic than ammonia.
- viii) Write a note on Ozonolysis and Diel-alder reaction.
- ix) Give the IUPAC names of following compounds.

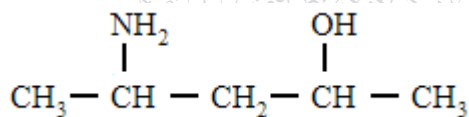
a)



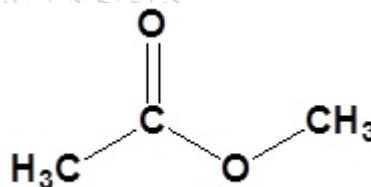
b)



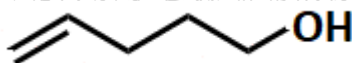
c)



d)



e)



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