DEPTH OF BIOLOGY

UNIT - 1

Classification, nomenclature and isomerism

Classification of Organic Compounds

Common and IUPAC systems of nomenclature of organic compounds
(up to 10 Carbons open chain and carbocyclic compounds)

Structural isomerisms in organic compounds

DEPTH OF BIOLOGY

5/7 Marks

Q.1 Define Isomers & its Classification ?

2/3 MCQ

Q.1 Define Organic Compound ?

Q.2 Define Isomers ?

Q. 3 Define Structural isomerisms ?

DEPTH OF BIOLOGY

Unit-2

Alkanes*, Alkenes* and Conjugated dienes*

SP3 hybridization in alkanes, Halogenation of alkanes, uses of paraffins.

Stabilities of alkenes, SP2 hybridization in alkenes

E1 and E2 reactions– kinetics, order of reactivity of alkyl halides, rearrangement of carbocations, Saytzeffs orientation and evidences. E1 verses E2 reactions, Factors affecting E1

and E2 reactions. Ozonolysis, electrophilic addition reactions of alkenes, Markownikoff's

orientation, free radical addition reactions of alkenes, Anti Markownikoff's orientation. Stability of conjugated dienes, Diel-Alder, electrophilic addition, free radical addition reactions of conjugated dienes, allylic rearrangement

DEPTH OF BIOLOGY

10/15 Marks

Q.1 Give a detail note on E1 & E2 reaction, its kinetics, order of reactivity & factor affecting ?

DEPTH OF BIOLOGY

5/7 Marks

Q.1 Write a short note on Halogenation of Alkanes ?

Q.2 Write the difference between E1 & E2 reaction ?

Q.3 Write a short note on Dielder electrophilic substitution reaction ? d

Q.4 Explain free radical addition reaction of conjugated dienes. ? c

Q.5 Write a short note on Allylic rearrangement ? a

Q.6 Define markovnikov and anti-markovnikov rule. ? b

DEPTH OF BIOLOGY

2/3/ MCQ

Q.1 Define Sp3 hybridisation in alkanes ?

Q.2 What are the uses of paraffin ?

Q.3 Define Ozonolysis ?

Q.4 Define markovnikov and anti-markovnikov rule. ?

DEPTH OF BIOLOGY

Unit-3

Alkyl halides*

SN1 and SN2 reactions - kinetics, order of reactivity of alkyl halides, stereochemistry and
rearrangement of carbocations.
SN1 versus SN2 reactions, Factors affecting SN1 and SN2 reactions
Structure and uses of ethylchloride, Chloroform, trichloroethylene, tetrachloroethylene,
dichloromethane, tetrachloromethane and iodoform.

-Alcohols*

- Qualitative tests, Structure and uses of Ethyl alcohol, Methyl alcohol, chlorobutanol, Cetosteryl alcohol, Benzyl alcohol, Glycerol, Propylene glycol

DEPTH OF BIOLOGY

10/15 Marks

Q.1 Give a detail note on SN1 & SN2 reaction its kinetics, Order of reactivity, Stereochemical, Factor affecting b/w SN1 & SN2 ?

5 Marks

Q.1 Write a short note on Stereochemical & factors affecting b/w SN1 & SN2 ?

Q.2 Explain the Qualitative test for Alcohol ?

Q.3 Structure & Uses of chlorobutanol, Cetosteryl alcohol, Benzyl alcohol ?

DEPTH OF BIOLOGY

2 Marks

Q.1 Write the structure & uses of Cetosteryl alcohol ?

Q.2 Write the structure & uses of Chloroform ?

DEPTH OF BIOLOGY

Unit-4

Carbonyl compounds* (Aldehydes and ketones) -
Nucleophilic addition, Electromeric effect, aldol condensation, Crossed Aldol condensation,
Cannizzaro reaction, Crossed Cannizzaro reaction, Benzoin condensation, Perkin condensation, qualitative tests, Structure and uses of Formaldehyde, Paraldehyde, Acetone,
Chloral hydrate, Hexamine, Benzaldehyde, Vanilin, Cinnamalde

DEPTH OF BIOLOGY

10/15 Marks

Rare.

Q.1 Write down the method of preparation & chemical reaction of Aldehyde & Ketone ?

Q.2 Difference b/w Aldol & Cross aldol condensation ?

Q.3 Difference b/w Cannizzaro & Cross Cannizzaro reaction ?

DEPTH OF BIOLOGY

5/7 MARKS

Q.1 Write a short note on perkin reaction ?

Q.2 Define Benzoin condensation ?

40%

Q.3 Write down the qualitative test for Carbonyl Compound ?

Q.4 Write a short note on Nucleophilic Addition reaction ?

DEPTH OF BIOLOGY

2/3/ MCQ

Q.1 Define Electrometric effect ?

Q.2 Write the structure & uses of Formaldehyde / Chloral hydrate ?

DEPTH OF BIOLOGY

Unit-5

Carboxylic acids*

Acidity of carboxylic acids, effect of substituents on acidity, inductive effect and qualitative

tests for carboxylic acids ,amide and ester

Structure and Uses of Acetic acid, Lactic acid, Tartaric acid, Citric acid, Succinic acid. Oxalic

acid, Salicylic acid, Benzoic acid, Benzyl benzoate, Dimethyl phthalate, Methyl salicylate and

Acetyl salicylic acid

Aliphatic amines* - Basicity, effect of substituent on Basicity. Qualitative test, Structure and

uses of Ethanolamine, Ethylenediamine, Amphetamine

DEPTH OF BIOLOGY

5/7 Marks

Q.1 Define Acidity of COOH Acid & effect of substituents on acidity of COOH Acid ?

+I, −I.

Q.2 Write down the qualitative test for COOH Acid ?

Q.3 Write the structure & uses of Salicylic acid & Benzoic acid ?

Q.4 Write down the qualitative test of Aliphatic amines ?

Q.5 Define basicity & effect of substituent on basicity of Aliphatic amine ?

DEPTH OF BIOLOGY

2/3 MCQ

Q.1 Write the structure & Uses of Amphetamine ?

Q.2 Write the structure & Uses of Ethanol-amine. ?