EXERCISE - I

Q.1 How many **1**° carbon atom will be present in a simplest open chain hydrocarbon having two **3**° and one **2**° carbon atom?

(A) 3 (B) 4 (C) 5 (D) 6

Q.2 Alicyclic compounds are

(A) Aromatic compounds (B) Aliphatic cyclic compounds

(C) Heterocyclic compounds (D) None of the above

Q.3 How many **1**°, **2**°, **3**°**C** atoms does **1**, **3**, **5**-Trimethyl cyclohexane have?

(A) **3**, **6**, **0** (B) **3**, **4**, **2** (C) **0**, **3**, **6** (D) **3**, **3**, **3**

Q.4 The compound which has one isopropyl group is:

(A) 2,2,3,3-Tetramethyl pentane (B) 2,2-Dimethyl pentane

(C) 2,2,3-Trimethyl pentane (D) 2-Methyl pentane

Q.5 Which of the following is the first member of ester homologous series?

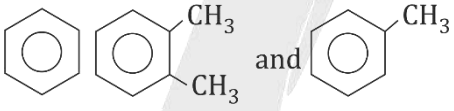
(A) Ethyl ethanoate (B) Methyl ethanoate

(C) Methyl methanoate (D) Ethyl methanoate

Q.6 A group closely related compounds which can be expressed by a general formula & in which two conscutive members differ by 14 in their molecular masses is called

(A) a heterogeneous series (B) a homologous series

(C) a homogeneous series (D) a electrochemical series

Q.7 

Number of secondary carbon atoms present in the above compounds are respectively:

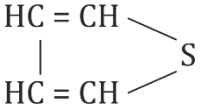
(A) **6**, **4**, **5** (B) 4,5,6 (C) **5**, **4**, **6** (D) **6**, **2**, **1**

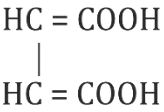
Q.8 The molecular formula of the first member of the family of alkenynes and its name is given by the set

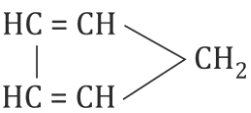
(A) $\mathbf{C_3H_6}$, Alkene (B) $\mathbf{C_5H_6}$, Pent-1-en-3-yne

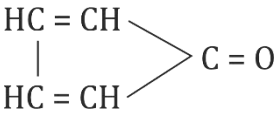
(C) $\mathbf{C_6H_8}$, Hex-1-en-5-yne (D) $\mathbf{C_4H_4}$, Butenyne

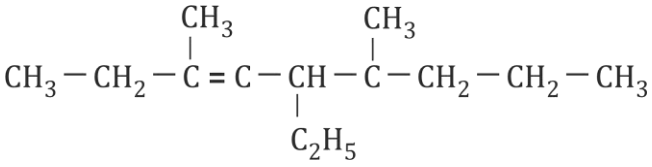
Q.9 Which of the following is a heterocyclic compound

(A) 

(B) 

(C) 

(D) 

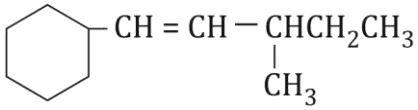
Q.10 The correct IUPAC name of the compound 

(A) 5-Ethyl-3, 6-dimethyl non-3-ene

(B) 5-Ethyl-4, 7-dimethyl non-3-ene

(C) 4-Methyl-5, 7-diethyl oct-2-ene

(D) 2,4-Ethyl-5-methyl oct-2-ene

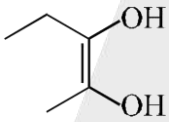
Q.11 The IUPAC name of 

(A) 1-Cyclohexyl-3-methylpent-1-ene

(B) 3-Methyl-5-cyclohexylpent-1-ene

(C) 1-Cyclohexyl-3-ethylbut-1-ene

(D) 1-Cyclohexyl-3,4-dmethyl-but-1-ene

Q.12 IUPAC name of  is:

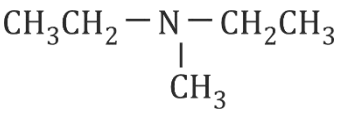
(A) But-2-ene-2,3-diol (B)Pent-2-ene-2,3-diol

(C) 2-Methylbut-2-ene-2,3-diol (D) Pent-3-ene-3,4-diol

Q.13 IUPAC name of $\mathbf{CH_2 = CH - CN}$ is:

(A) Ethenenitrile (B) Vinyl cyanide

(C) Cyono ethene (D) Prop-2-enenitrile

Q.14 The IUPAC name of 

(A) N-Methyl-N-ethyl ethanamine (B) Diethyl methanamine

(C) N-Ethyl-N-methyl ethanamine (D) Methyl diethyl ethanamine

Q.15 The IUPAC name of acetyl acetone is:

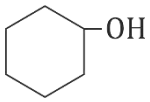
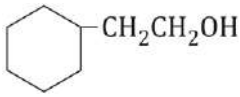
(A) Pentane-2,5-dione (B)Pentane-2,4-dione

(C) Hexane-2,4-dione (D)Butane-2,4-dione

Q.16 When vinyl & allyl are joined each other, we get

(A) Conjugated alkadiene (B) cumulative alkadiene

(C) Isolated alkadiene (D) Allenes

Q17. (a)  and (b) 

True statement for the above compounds is:

(A) (a) is phenol while (b) is alcohol

(B) Both (a) and (b) are primary alcohol

(C) (a) is primary and (b) is secondary alcohol

(D) (a) is secondary and (b) is primary alcohol

Q.18 The IUPAC name of the following structure $(\mathbf{CH_3})$ C.C.C. $(\mathbf{CH_3})\mathbf{CH}(\mathbf{CH_3})$ is:

(A) 3-Methylhex-4-yn-2-ene

(B) 3-Methylhex-2-en-4-yne

(C) 4-Methylhex-4-en-4-yne

(D) all are correct

Q.19 The IUPAC name of the following structure is $[\mathbf{CH_3CH(CH_3)}]_\mathbf{2}\mathbf{C(CH_2CH_3)C(CH_3)C_2CH_2CH_3)_2}$

(A) 3,5-Diethyl-4,6-dimethyl-5-[1-methylethyl] hept-3-ene

(B) 3,5-Diethyl-5-isopropyl-4,6-dimethylhept-2-ene

(C) 3,5-Diethyl-5-propyl-4,6-dimethylhept-3-ene

(D) None of these

Q.20 The correct IUPAC name of $CH_3-CH_2-\underset{\underset{CH_2}{\|}}{C}-COOH$ is:

(A) 2-Methyl butanoic acid (B) 2-Ethylprop-2-enoic acid

(C) 2-Carboxybutene (D) None of the above

Q.21 The correct IUPAC name of 2-ethylpent-3-yne is:

(A) 3-Methyl hex-4-yne (B) 4-Ethyl pent-2-yne

(C) 4-methyl hex-2 yne (D) None of these

Q.22 All the following IUPAC names are correct except:

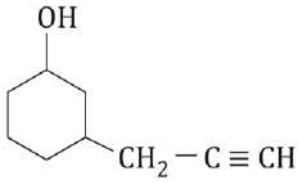
(A) 1-Chloro-1-ethoxy propane (B) 1-Amino-1-ethoxypropane

(C) 1-Ethoxy-2-propanol (D) 1-Ethoxy-1-propanamine

Q.23 The IUPAC name of the compound $\mathbf{CH_3CH = CHCH = CHC \equiv CCH_3}$ is:

(A)Octa-4,6-diene-2-yne (B)Octa-2,4-diene-6-yne

(C) Oct-2-yne-4,6-diene (D) Oct-6-yne-2,4-diene

Q.24 The correct IUPAC name of 

(A) 3-Cyclohexanol Propyne

(B) 3-[3-Hydroxy Cyclohexyl] Propyne

(C) 3-Propynyl Cyclohexanol

(D) 3-(2-propynyl) Cyclohexanol

Q.25 The IUPAC name of **β**-ethoxy- **α**-hydroxy propionic acid (trivial name) is:

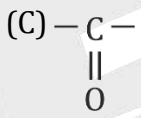
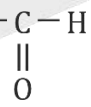
(A) 1,2-Dihydroxy-1-oxo-3-ethoxy propane

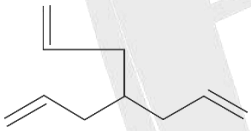
(B) 1-Carboxy-2-ethoxy ethanol

(C) 3-Ethoxy-2-hydroxy propanoic acid

(D) All above

Q.26 As per IUPAC rules, which one of the following groups, will be regarded as the principal functional group?

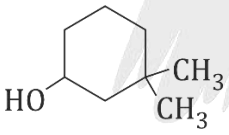
(A) $-\mathbf{C \equiv C}-$ (B) $-\mathbf{OH}$ (C)  (D) 

Q.27 The IUPAC name of the compound  is:

(A) 4-Pro-1-enyl hepta-1,6-diene (B) 4-Propylidene hepta-1,6-diene

(C) 4-Propenyl hepta-1,6-diene (D) 4-Prop-2-enyl hepta-1,6-diene

Q.28 The IUPAC name of the given compound is:

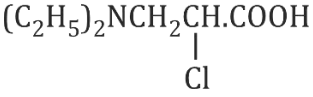


(A) 1,1-Dimethyl-3-hydroxy cyclohexane

(B) 3,3-Dimethyl-1-hydroxy cyclohexane

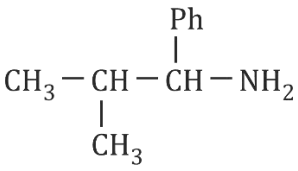
(C) 3,3-Dimethylcyclohexanol

(D) 1,1-Dimethylcyclohexan-3-ol

Q.29 The IUPAC name of is 

(A) 2-Chloro-4-N-ethylpentanoic acid (B) 2-Chloro-3-(N,N-diethyl amino)-propanoic acid

(C) 2-Chloro-2-oxo diethylamine (D) 2-Chloro-2-carboxy-N-ethyl ethane

Q.30 The IUPAC name of the compound is 

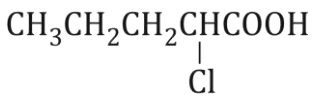
(A) 1-Amino-1-phenyl-2-methyl propane

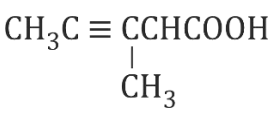
(B) 2-Methyl-1-phenyl propan-1-amine

(C) 2-Methyl-1-amino-1-phenyl propane

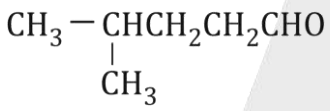
(D) 1-Isopropyl-1-phenyl methyl amine

Q.31 Which of the following compound is wrongly named?

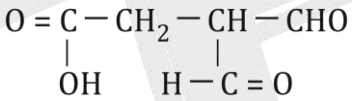
(A)  ; 2-Chloro pentanoic acid

(B)  ; 2-Methyl hex-3-enoic acid

(C) $\mathbf{CH_3CH_2CH = CHCOCH_3}$; Hex-3-en-2-one

(D)  ; 4-Methyl pentanal

Q.32 The correct IUPAC name of the following compound is:



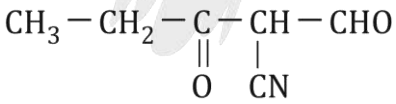
(A) 3,3-Diformylpropanoic acid

(B) 3-Formyl-4-oxo-butanoic acid

(C) 3,3-Dioxo propanoic acid

(D) 3,3-Dicarbaldehyde propanoic acid

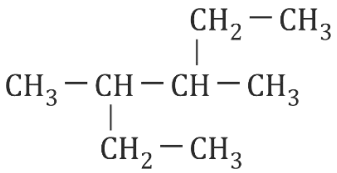
Q.33 The correct IUPAC name of compound:



(A) 2-Cyano-3-oxopentanal (B) 2-Formyl-3-oxopentanenitrile

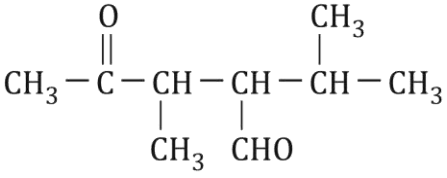
(C) 2-Cyanopentane-1,3-dione (D) 1,3-Dioxo-2-cyanopentane

Q.34 IUPAC name of compound



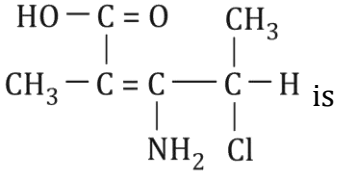
(A) 2, 3-diethyl butane (B) 2-ethyl-3-methyl pentane

(C) 3-methyl-2-ethyl pentane (D) 3,4-dimethyl hexane

Q.35 The IUPAC name of compound  is

(A) 3,5-Dimethyl-4-Formyl pentanone (B) 1-Isopropyl-2-methyl-4-oxo butanal

(C) 2-Isopropyl-3-methyl-4-oxo pentanal (D) None of the above

Q.36 The IUPAC name of compound  is

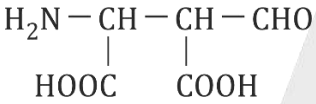
(A) 2-Amino-3-chloro-2-methylpent-2-enoic acid

(B) 3-Amino-4-chloro-2-methylpent-2-enoic acid

(C) 4-Amino-3-chloro-2-methylpent-2-enoic acid

(D) All of the above

Q.37 The IUPAC name of the structure is:



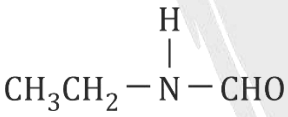
(A) 3-Amino-2-formyl butane-1, 4-dioic acid

(B) 3-Amino-2,3-dicarboxy propanal

(C) 2-Amino-3-formyl butane-1, 4-dioic acid

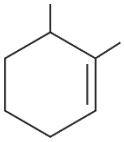
(D) 1-Amino-2-formyl succinic acid

Q.38 One among the following is the correct IUPAC name of the compound



(A) N-Formyl aminoethane (B) N-Ethyl formyl amine

(C) N-Ethyl methanamide (D) Ethylamino methanal

Q.39 The IUPAC name of the structure is: 

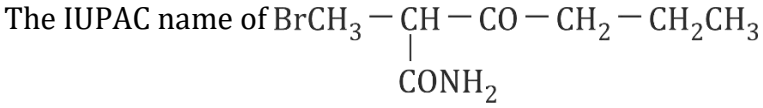
(A) 1,2-Dimethyl-Cyclohexane (B) 1,6-Dimethyl-Cyclohexene

(C) 1,2-Dimethyl-Cyclohex-2-ene (D) 2,3-Dimethyl-Cyclohexane

Q.40 The IUPAC name of $\mathbf{C_6H_5CH = CH - COOH}$ is:

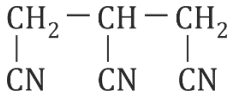
(A) Cinnamic acid (B) 1-Phenyl-2-carboxy ethane

(C) 3-Phenyl prop-2-enoic acid (D) Dihydroxy-3-phenyl propionic acid

Q.41 The IUPAC name of  is:

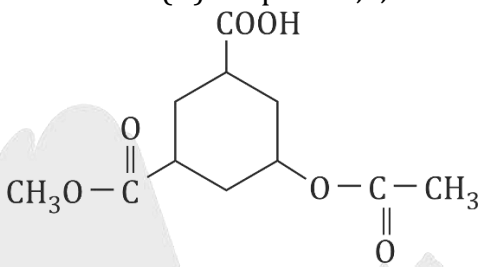
(A) 2-Bromomethyl-3-oxohexanamide (B) 1-Bromo-2-amino-3-oxohexane

(C) 1-Bromo-2-amino-n-propyl ketone (D) 3-Bromo-2-propyl propanamide

Q.42 IUPAC name will be 

(A) 1,2,3-Tricyano propane (B) Propane-1,2,3-trinitrile

(C) 1,2,3-Cyano propane (D) Propane-1,2,3-tricarbonitrile

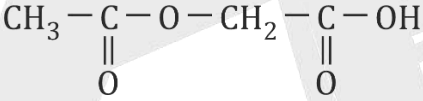
Q.43 The IUPAC name of compound 

(A) 3-Carbonyl methoxy -5- Ethanoyl oxy cyclohexanic aicd

(B) 3-Ethanoyl oxy -5- Methoxy carbonyl cyclohexane carboxylic acid

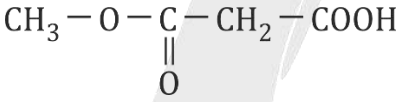
(C) 5-Ethanoyl oxy -5-Methoxy carbonyl cyclohexanoic aicd

(D) 3-Methoxy carbonyl -5- Ethanoyl oxy cyclohexane carboxylic aicd

Q.44 The IUPAC name of  is:

(A) 1-Acetoxy acetic acid (B) 2-Acetoxy ethanoic acid

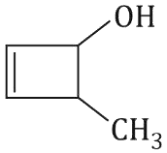
(C) 2-Ethanoyloxyacetic acid (D) 2-Ethanoyloxyethanoic acid

Q45. 

The correct IUPAC systematic name of the above compound is:

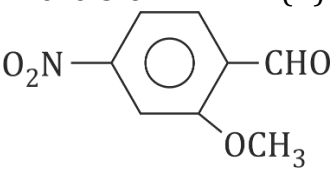
(A) 2-Acetoxy ethanoic acid (B) 2-Methoxy carbonyl ethanoic acid

(C) 3-Methoxy formyl ethanoic acid (D) 2-Methoxy formyl acetic acid

Q.46 The IUPAC name of  is

(A) 3-Methyl cyclobut-1-ene-2-ol (B) 4-Methyl cyclobut-2-ene-1-ol

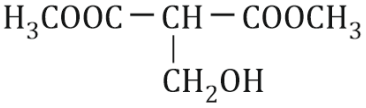
(C) 4-Methyl cyclobut-1-ene-3-ol (D) 2-Methyl cyclobut-3-ene-1-ol

Q.47 The IUPAC name of is 

(A) 2-Methoxy-4-nitro benzaldehyde (B) 4-Nitro anisaldehyde

(C) 3-Methoxy-4-formyl nitro benzene (D) 2-Formyl-4-nitro anisole

Q.48 The IUPAC name of compound



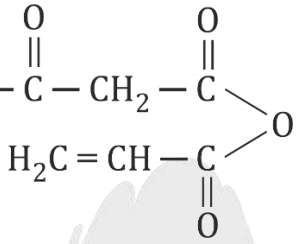
(A) 2-(Hydroxy methyl) methyl propanedioate

(B) Methyl-2-(hydroxy methyl) propanedioate

(C) 2-(Hydroxy methyl) dimethyl propanedioate

(D) None of these

Q.49 The IUPAC name of



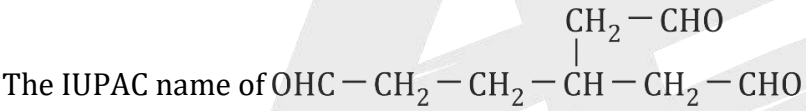
(A) 2-Formyl ethanoic propanoic Anhydride

(B) 2-Oxo-propanoic prop-2-enoic Anhydride

(C) Prop-2-enoic-2-formyl propanoic Anhydride

(D) 2-Formyl ethanoic prop-2-enoic Anhydride

Q.50 The IUPAC name of



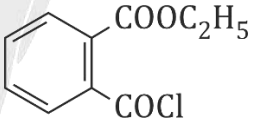
(A) 4,4-Di(formylmethyl) butanal

(B) 2-(Formylmethyl) butane-1, 4-dicarbaldehyde

(C)Hexane-3-acetal-1, 6-dial

(D) 3-(Formylmethyl) hexane-1, 6-dial

Q.51 The IUPAC name of

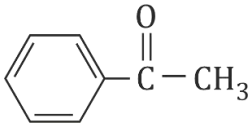


is:

(A) 2-Chlorocarbonyl ethylbenzoate (B) 2-Carboxyethyl benzoyl chloride

(C) Ethyl-2-(chlorocarbonyl)benzoate (D) Ethyl-1-(chlorocarbonyl)benzoate

Q.52 The IUPAC name of



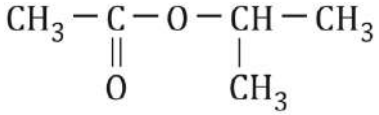
is:

(A)Phenyl ethenone (B) Methyl phenyl ketone

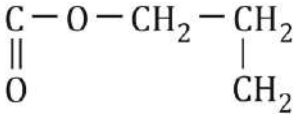
(C) Acetophenone (D) Phenyl methyl ketone

Q.53 Structural formula of isopropyl methanoate is:

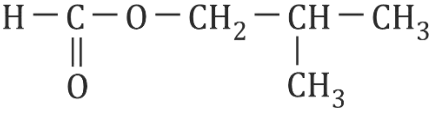
(A)



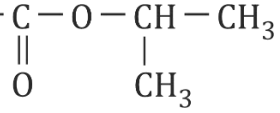
(B)



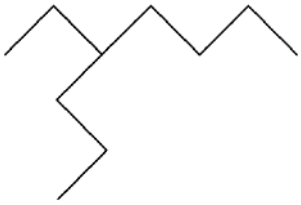
(C)

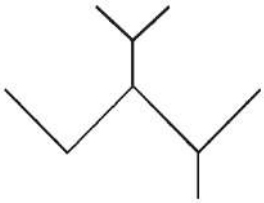


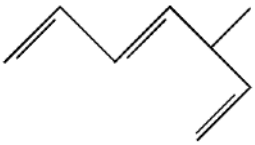
(D)

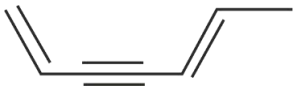


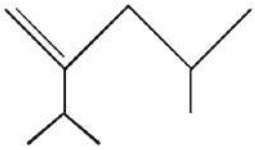
EXERCISE – II

Q.1 

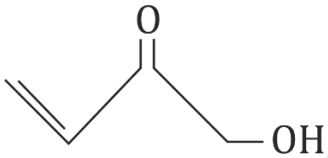
Q.2 

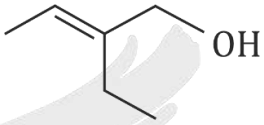
Q.3 

Q.4 

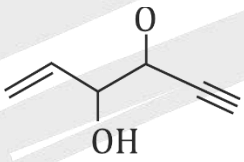
Q.5 

Q.6 

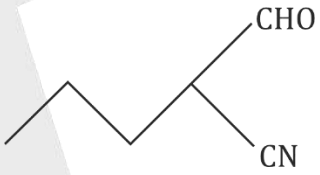
Q.7 

Q.8 

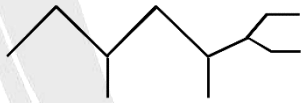
Q.9 

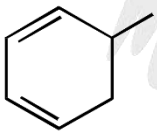
Q.10 

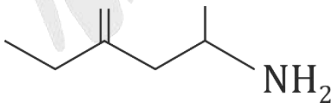
Q.11 

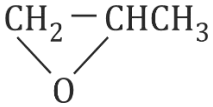
Q.12 

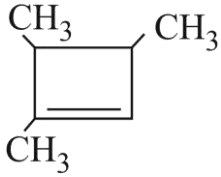
Q.13 

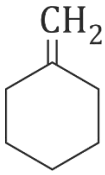
Q.14 

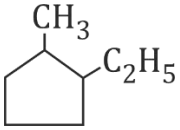
Q.15 

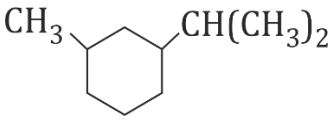
Q.16 

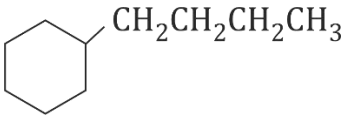
Q.17 

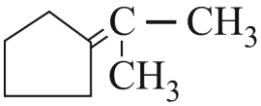
Q.18 

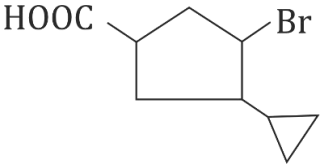
Q.19 

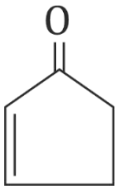
Q.20 

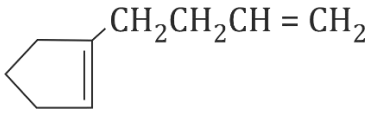
Q.21 

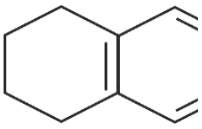
Q.22 

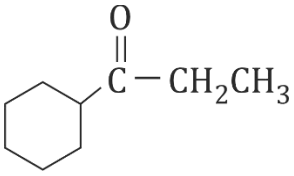
Q.23 

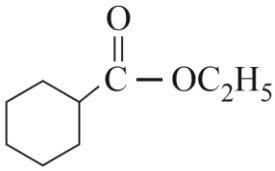
Q.24 

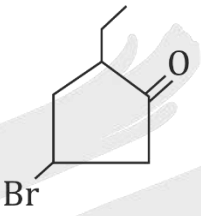
Q.25 

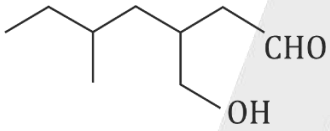
Q.26 

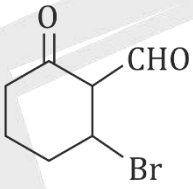
Q.27 

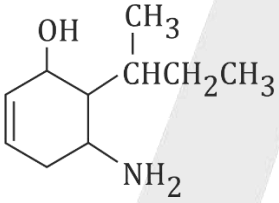
Q.28 

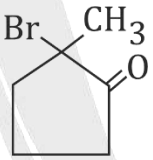
Q.29 

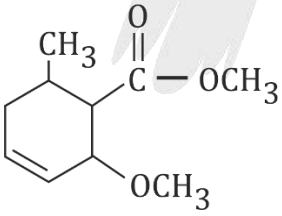
Q.30 

Q.31 

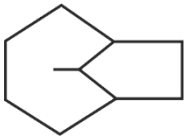
Q.32 

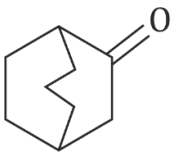
Q.33 

Q.34 

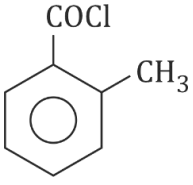
Q.35 

Q.36 

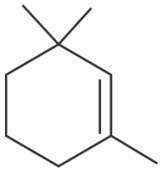
Q.37 

Q.38 

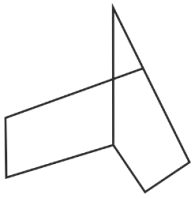
Q.39 

Q.40 

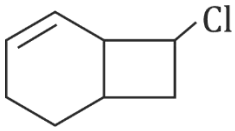
Q.41



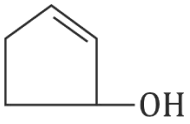
Q.42



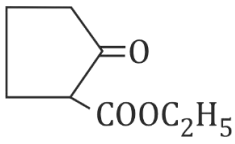
Q.43



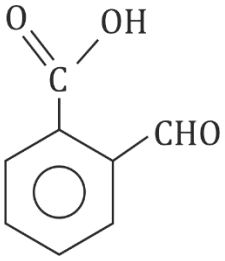
Q.44



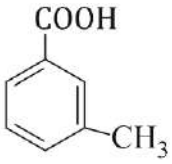
Q.45



Q.46

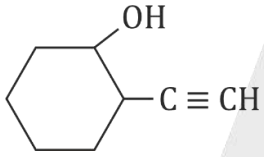


Q.47

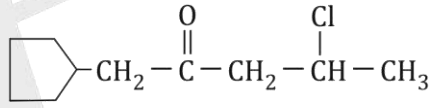


Q.48

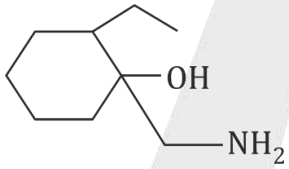
Q.49



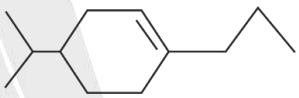
Q.50



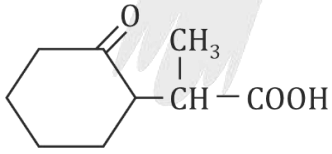
Q.51



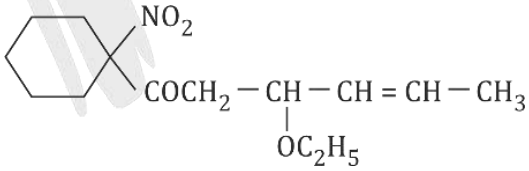
Q.52



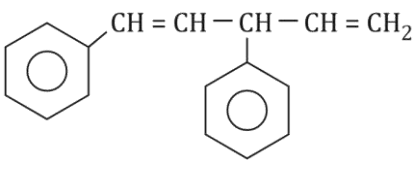
Q.53



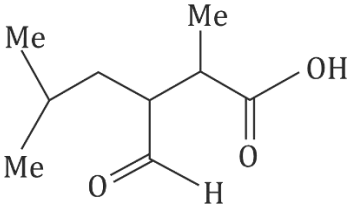
Q.54



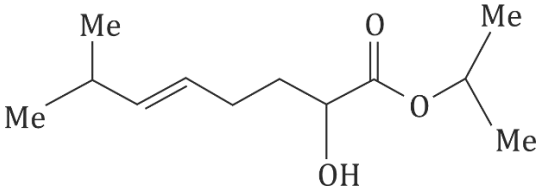
Q.55



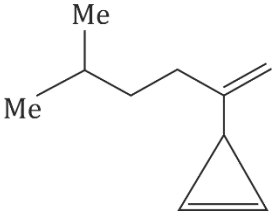
Q.56



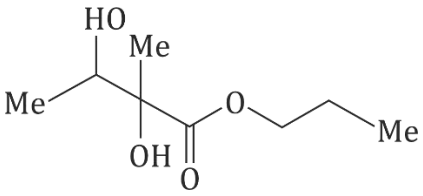
Q.57



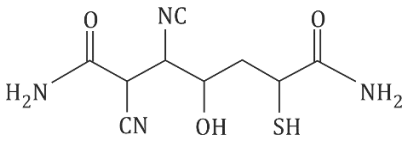
Q.58



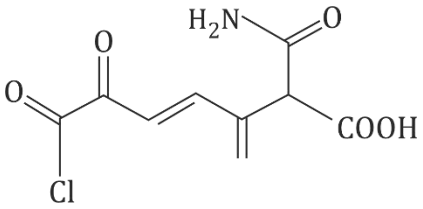
Q.59



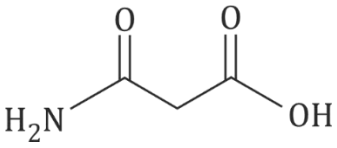
Q.60



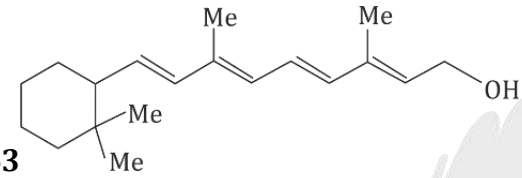
Q.61



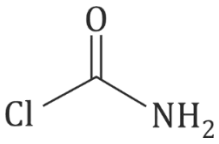
Q.62



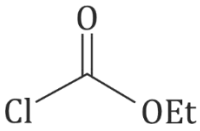
Q.63



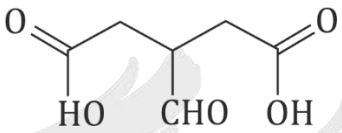
Q.64



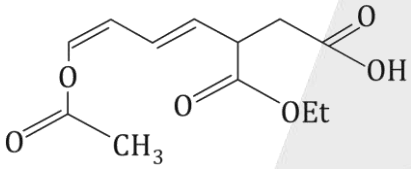
Q.65



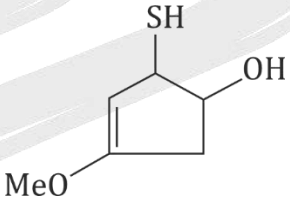
Q.66



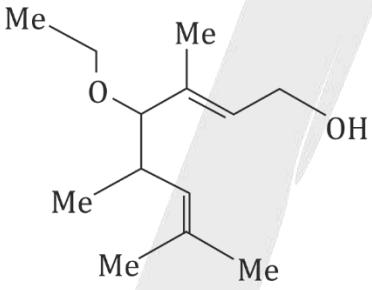
Q.67



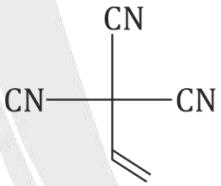
Q.68



Q.69



Q.70



EXERCISE - III

Q.1 Which of the following pairs have absence of carbocyclic ring in both compounds?

(A) Pyridine, Benzene (B) Benzene, Cyclohexane

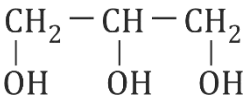
(C) Cyclohexane, Furane (D) Furane, Pyridine

Q.2 The commercial name of trichloroethene is:

(A) Westron (B) Perclene (C) Westrosol (D) Orlone

Q.3 A substance containing an equal number of primary, secondary and tertiary carbon atoms is:

(A) Mesityl Oxide (B) Mesitylene (C) Maleic acid (D) Malonic acid

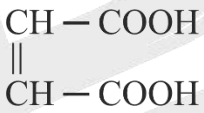
Q.4 The IUPAC name of the compound Glycerine  is

(A) 1,2,3-Tri hydroxy propane (B) 3-Hydroxy pentane-1,5-diol

(C) 1,2,3-Hydroxy propane (D) Propane-1,2,3-triol

Q.5 Which of the following is crotonic acid:

(A) $\mathbf{CH_2 = CH - COOH}$ (B) $\mathbf{C_6H_5 - CH = CH - COOH}$

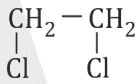
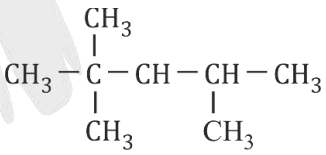
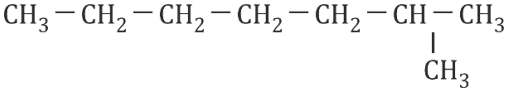
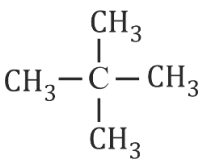
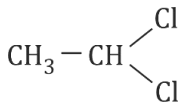
(C) $\mathbf{CH_3 - CH = CH - COOH}$ (D) 

Q.6 The group of heterocylic compounds is:

(A) Phenol, Furane (B) Furane, Thiophene

(C) Thiophene, Phenol (D) Furane, Aniline

Q.7

Column – I (Common Name)	**Column - II (Structural formula)**
(A) Isooctane	(P) 
(B) Neopentane	(Q) 
(C) Ethylidene chloride (Geminal dihalide)	(R) 
(D) Ethylene Dichloride (Vicinal dihalide)	(S) 
	(T) 

Q.8

Column - I (Common Name)	**Column - II (Structural formula)**
(A) Acetone	(P) $CH_2 = CH - \overset{\overset{O}{\|}}{C} - H$
(B) Acetaldehyde	(Q) $CH_3 - \overset{\overset{O}{\|}}{C} - CH_3$
(C) Crotonaldehyde	(R) $CH_3 - CH = CH - \overset{\overset{O}{\|}}{C} - H$
(D) Acrolein	(S) $CH_3 - \overset{\overset{O}{\|}}{C} - H$

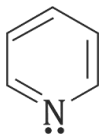
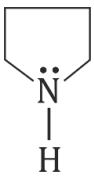
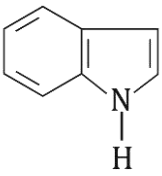
Q.9

Column - I (Common Name)	**Column - II (Structural formula)**
(A) $\begin{matrix} CHO \\ \| \\ CHO \end{matrix}$	(P) Lactic acid (In milk)
(B) $H - \underset{\underset{CH_2 - OH}{\|}}{\overset{\overset{CHO}{\|}}{C}} - OH$	(Q) Glyoxal
(C) $H_2N - CH_2 - COOH$	(R) Glyceraldehyde
(D) $CH_3 - \underset{\underset{OH}{\|}}{\overset{\overset{H}{\|}}{C}} - COOH$	(S) Glycine
(T) Glycerol	

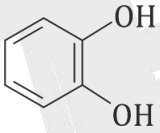
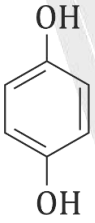
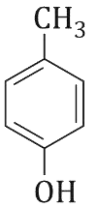
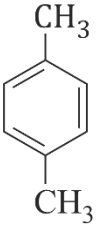
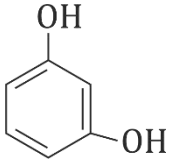
Q.10

Column - I (Common Name)	**Column - II (Structural formula)**
(A) Fumaric acid	(P) $\begin{matrix} HO - CH - COOH \\ \quad\quad\| \\ HO - CH - COOH \end{matrix}$
(B) Adipic acid	(Q) $\begin{matrix} \quad\quad\quad HC - COOH \\ \quad\quad\quad\quad\| \\ HOOC - CH \end{matrix}$
(C) Maleic acid	(R) $\begin{matrix} H - C - COOH \\ \quad\quad\| \\ H - C - COOH \end{matrix}$
(D) Tartaric acid	(S) $\mathbf{COOH(CH_2)_4COOH}$

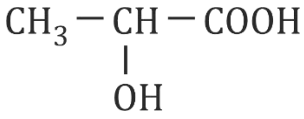
Q.11

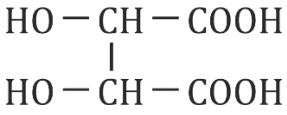
Column - I (Common Name)	**Column - II (Structural formula)**
(A) 	(P) Pyrrole
(B) 	(Q) Furan
(C) 	(R) Thiophene
(D) 	(S) Indol

Q.12

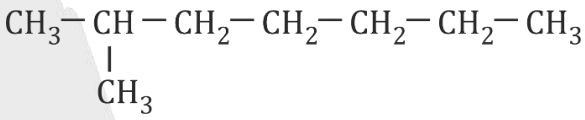
Column – I (Common Name)	**Column - II (Structural formula)**
(A) p-Cresol	(P) 
(B) p-Xylene	(Q) 
(C) Resorcinol	(R) 
(D) Quinol	(S) 
(E) Catechol	(T) 

Q.13 Which of the following is not correctly matched:

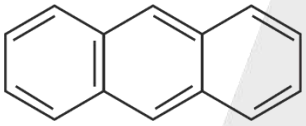
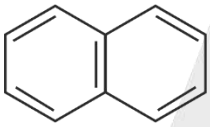
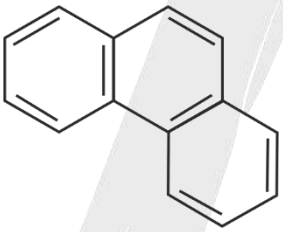
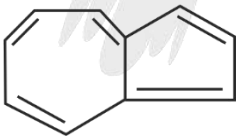
(A) Lactic acid 

(B) Tartaric acid 

(C) Pivaldehyde **$CH_3C(CH_3)_2CHO$**

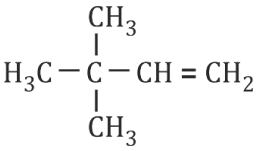
(D) Iso-octane 

Q.14

Column - I	**Column – II**
(A) 	(P) Phenanthrene
(B) 	(Q) Anthracene
(C) 	(R) Azulene
(D) 	(S) Napthalene

Exercise – IV

Q.1 The IUPAC name of the compound having the formula is:



(A) 3,3,3-trimethyl-1-propene (B) 1,1,1-trimethyl-2-propene

(C) 3,3-dimethyl-1-butene (D) 2,2-dimethyl-3-butene

Q.2 Write the IUPAC name of $\mathbf{CH_3CH_2CH = CH \cdot COOH}$ **[JEE 1986]**

Q.3 The IUPAC name of the compound $\mathbf{CH_2 = CH - CH(CH_3)_2}$ is: **[JEE 1987]**

(A) 1,1-dimethyl-2-propene (B) 3-methyl-1-butene

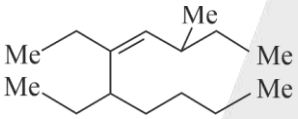
(C) 2-vinyl propane (D) None of the above

Q.4 The number of sigma and pi-bonds in 1-butene 3-yne are: **[JEE 1989]**

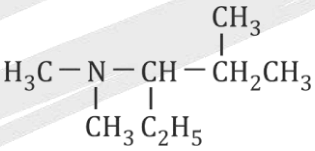
(A) 5 sigma and 5 pi (B) 7 sigma and 3 pi

(C) 8 sigma and 2 pi (D) 6 sigma and 4 pi

Q.5 Write IUPAC name of following:

(A) 

Me = methly group

(B) 

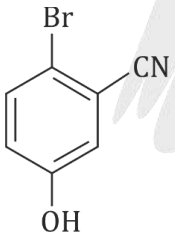
Q.6 Write IUPAC name of succinic acid. **[JEE 1994]**

Q.7 The IUPAC name of $\mathbf{C_6H_5COCl}$ is **[JEE 2006]**

(A) Benzoyl chloride (B) Benzene chloro ketone

(C) Benzene carbonyl chloride (D) Chloro phenyl ketone

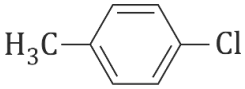
Q.8 The IUPAC name of the following compound is **[JEE 2009]**



(A) 4-Bromo-3-cyanophenol (B) 2-Bromo-5-hydroxybenzonitrile

(C) 2-Cyano-4-hydroxybromobenzene (D) 6-Bromo-3-hydroxybenzonitrile

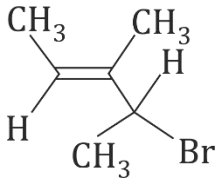
Q.9 The IUPAC name (s) of the following compound is (are) **[JEE 2017]**



(A) 4- methylchlorobenzene (C) 1-chloro-4-methylbenzene

(B) 4-chlorotoluene (D) 1-methyl-4-chlorobenzene

Q.10 What is the IUPAC name of the following compound? **[JEE 2019]**



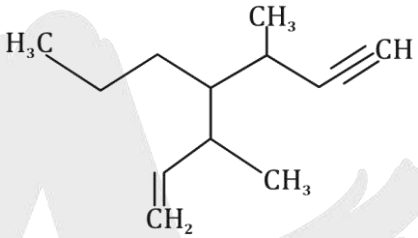
(1) 3-Bromo-1, 2-dimethylbut-1-ene

(2) 3-Bromo-3-methyl-1, 2-dimethylprop-1-ene

(3) 3-Bromo-3-methyl-1, 2-dimethylprop-1-ene

(4) 4-Bromo-3-methylpent-2-ene

Q.11 The IUPAC name for the following compound is: **[JEE 2019]**



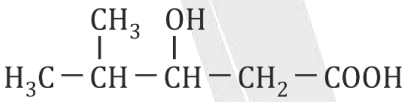
(1) 3,5-dimethyl-4-propylhept-6-en-1-yne

(2) 3-methyl-4-(1-methylprop-2-ynyl)-1-heptene

(3) 3,5-dimethyl-4-propylhept-1-en-6-yne

(4) 3-methyl-4-(3-methylprop-1-enyl)-1-heptyne

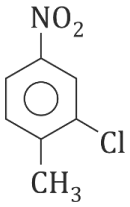
Q.12. The IUPAC name of the following compound is: **[JEE 2019]**



(1) 4-Methyl 1-3-hydroxypentanoic (2) 2-Methyl 1-3-hydroxypentan-5-oic acid

(3) 4,4-Dimethyl 1-3-hydroxybutanoic acid (4) 3-Hydroxy-4-methylpentanoic acid

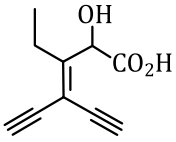
Q.13. The correct IUPAC name of the following compound is: **[JEE 2019]**

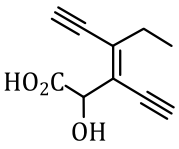


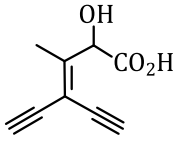
(1) 2-methyl 1-5-nitrol-1-chloro benzene (2) 3-chloro-4-methyl-1-nitro benzene

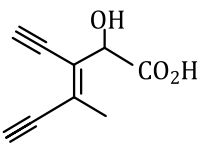
(3) 5-chloro-4-methyl-1-nitro benzene (4) 2-chloro-1-methyl-4-nitro benzene

Q.14. Which one of the following structures has the IUPAC name 3-ethynyl-2-hydroxy-4-methylhex-3-en-5-ynoic acid? **[JEE Adv.-2020]**

(1) 

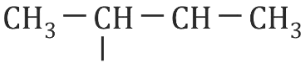
(2) 

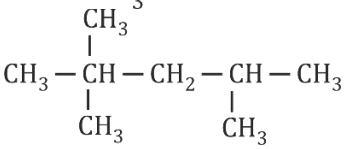
(3) 

(4) 

-ESSENTIAL COMMON NAMES

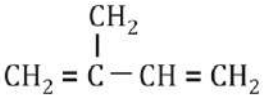
ALKANE


Isopentane


Isooctane

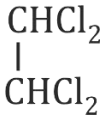
ALKANE

$CH_2 = C = CH_2$ Allene


Isoprene

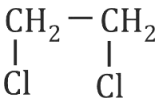
$CH_2 = CH - C \equiv CH$ Vinyl acetylene

ALKYL HALIDE


Westron (Solvent)

$ClCH = CCl_2$ Westrosol or Triclean (Solvent)

$CH_3 - CHCl_2$ Ethylidene chloride (gem dihalide)

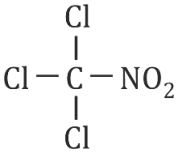

Ethylene Dichloride(Vinyl dihalide)

CH_2Cl_2 Methylene chloride

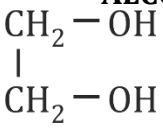
$CHCl_3$ Chloroform

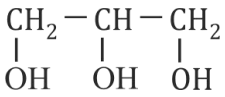
CCl_4 Carbontetra chloride

$Cl_2C = CCl_2$ Tetraclean or Perclean


Chloropicrin (Tear gas)

ALCOHOL


Glycol or Ethylene Glycol


Glycerol

$CH_2 = CH - CH_2 - OH$ Allyl Alcohol

$CH_2 = CH - OH$ Vinyl Alcohol

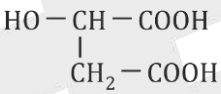
ETHER

$C_6H_5 - O - CH_3$ Anisole (Methyl Phenyl Ether)

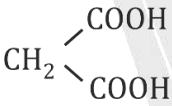
KETONE

CH_3COCH_3 Acetone

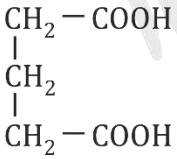
CARBOXYLIC ACID

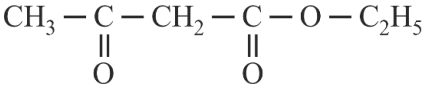

Malic acid

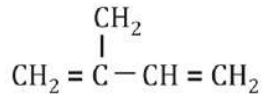
$HOCHCOOH_2COOH$ Glycolic Acid


Malonic acid

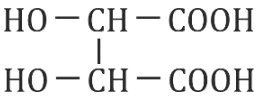

Succinic acid


Glutaric acid

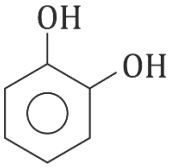

Aceto Acetic Ester **(AAE)** or Ethyl Aceto Acetate



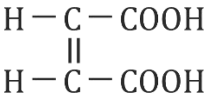
Chloroprene



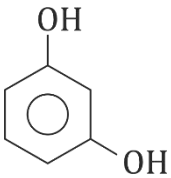
Tartaric acid



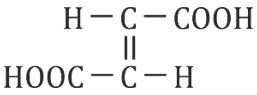
Catechol



Maleic acid

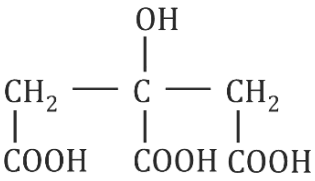


Resorcinol

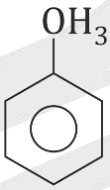


Fumaric acid

Quinol



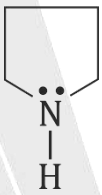
Citric acid



Toluene

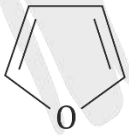
N–DERIVATIVES

CH_3–CH=CH–COOHK Crotonic acid



Pyrrole

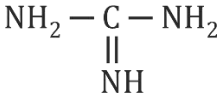
Ph–CH=CH–COOH Cinnamic acid



Furan

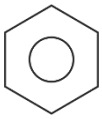
$CH_2 = CH - C \equiv N$ Vinyl Cyanide

or Acrylo Nitrile

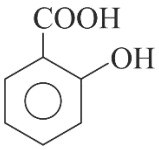


Guanidine

AROMATIC COMPOUNDS

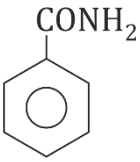


Benzene

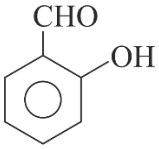


Salicylic acid

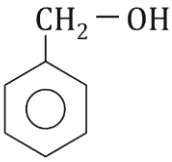
Amidine



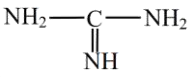
Benzamide



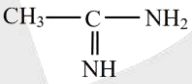
Salicylaldehyde



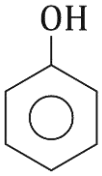
Benzyl alcohol (Aliphatic alcohol)



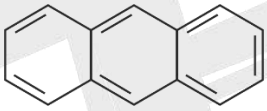
Guanidine



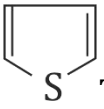
Amidine



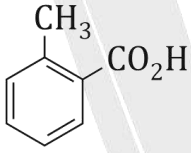
Phenol (Aromatic alcohol)



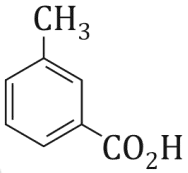
Anthracene



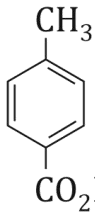
Thiophene



o-toluic acid
m.p. 105°C

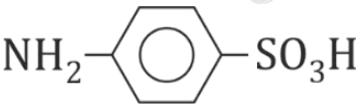


m-toluic acid,
m.p. 111°C

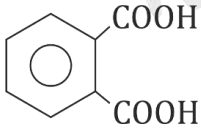


p-toluic acid,
m.p. 180°C

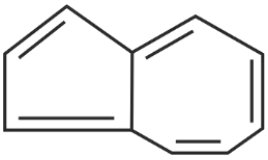
Toluic acids



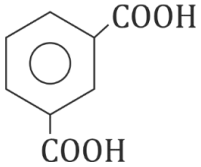
Sulphanilic acid



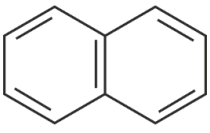
Phthalic acid



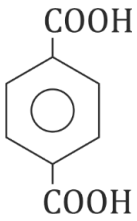
Azulene



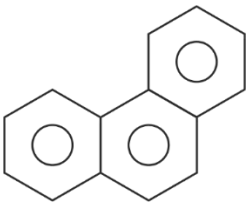
Isophthalic acid



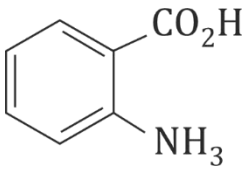
Napthalene



Terephthalic acid

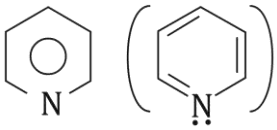


Phenanthrene



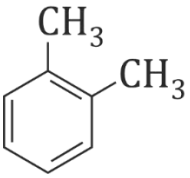
Anthranilic acid

(o-aminobenzoic acid)

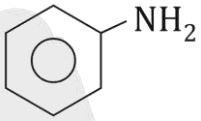


Pyridine

C_6H_5CHO Benzaldehyde

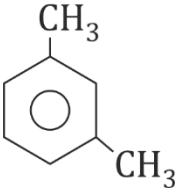


o–xylene

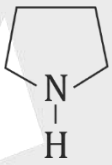


Aniline

HETROCYCLIC COMPOUNDS

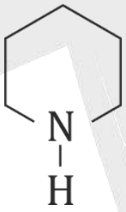


m-xylene

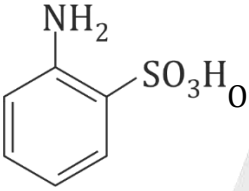


Pyrrolidine

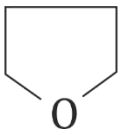
Nitrobenzene (oil of mirbane)



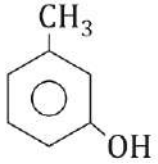
Pyrrolidine



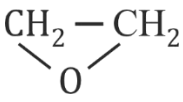
Orthanilic Acid



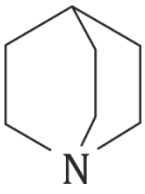
Tetrahydrofuran (THF)



m-Cresol



Oxirane or Ethylene Oxide or Oxo Cyclo Propane



Quinuclidine

$C_6H_5CO_3H$

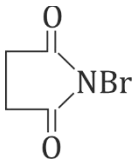
SOME REAGENTS

Grignard's reagent RMgX

POLAR APROTIC SOLVENTS

DMS Dimethyl sulphide **$CH_3 - S - CH_3$**

NBS N-Bromosuccinimide

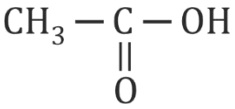


POLAR PROTIC SOLVENTS

$H-O-H$ Water

$R-O-H$ Alcohol

Phenol

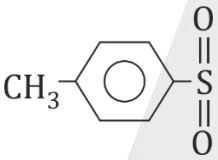


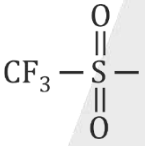
Acetic acid

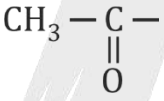
HF Hydrogen Fluoride

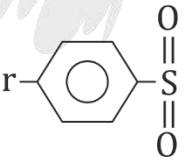
NH_3 Ammonia

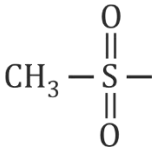
SOME GROUPS

Ts Tosyl 

Ms Mesyl 

Ac Acyl 

Bs Brosyl 

Tf Triflate 

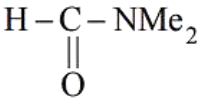
DMSO Dimethyl sulphoxide $Me_2S=O$

HMPT Hexamethylphosphoramide

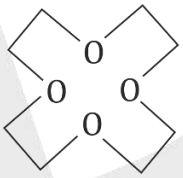
or

HMPTA $O=P-(NMe_2)_3$

DMF Dimethyl formamide



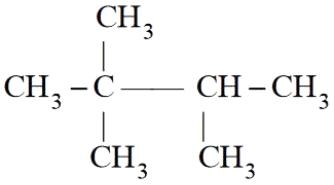
Crown ethers Cyclic polyethers

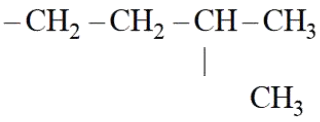


$(12-C-4)$

DESIRABLE COMMON NAMES-

ALKANES

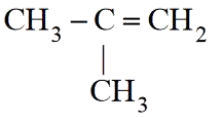

Triptane


Isopentyl Group

ALKENES

$CH_3–CH_2–CH=CH_2$ α–Butylene

$CH_3–CH=CH–CH_3$ β–Butylene


Iso Butylene

ALKYNES

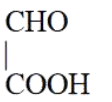
$HC\equiv CH$ Purified Acetylene or Norcelyne

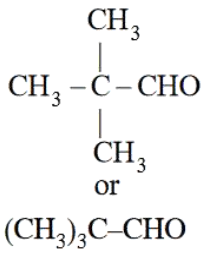
$CH_3–C\equiv CH$ Allylene

ETHER

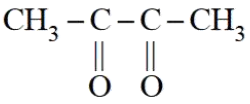
$CH_3CH(OCH_3)_2$ Methylal

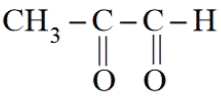
ALDEHYDE


Glyoxalic acid


Pivaldehyde

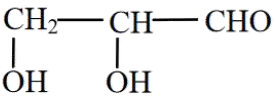
$(CH_3)_2CHCHO$ Isobutyraldehyde


Dimethyl Glyoxal


Methyl Glyoxal or Pyruvialdehyde

$CH_3–CH=CH–CHO$ Crotonaldehyde

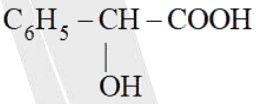
$CH_2=CH–CHO$ Acraldehyde (Acrolein)


Glyceraldehyde


Glyoxal

CARBOXYLIC ACID

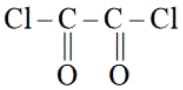
$CH_3–CO–COOH$ Pyruvic Acid


Mendalic Acid

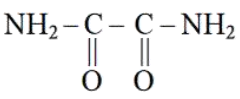
NH_2COOH Carbamic Acid (Amino formic Acid)

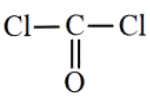

Oxalic acid

ACID DERIVATIVES

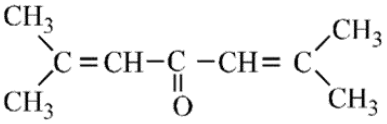

Oxalyl Chloride

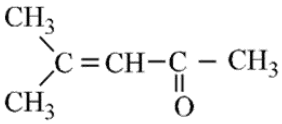
NH_2COONH_4 Ammonium Carbamate

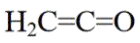

Oxanamide


Phosgene

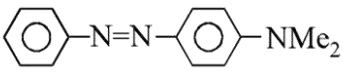
KETONE

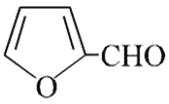

Phorone

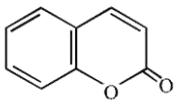

Mesityl Oxide

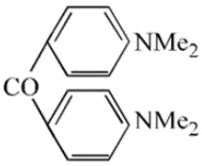

Ketene

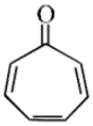
AROMATIC COMPOUNDS


Butter Yellow

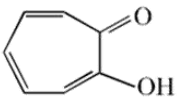

Furfural


Coumarine

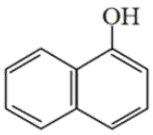

Michler's Ketone

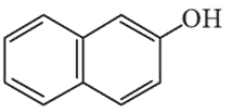

Tropone

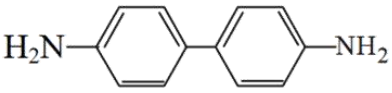
(Cycloheptatrienone)

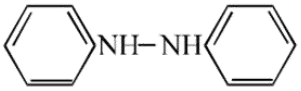

Tropolone

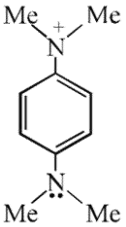
(Cycloheptatrienolone)

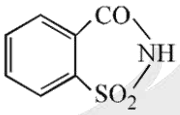

α–naphthol


β–naphthol


Benzidine

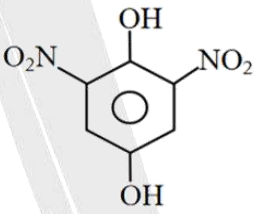

Hydrazobenzene

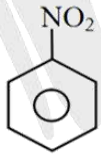

Wurster salts

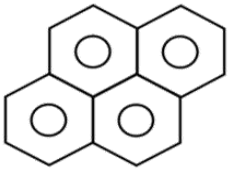

Saccharin (o-sulphobenzoic imide)

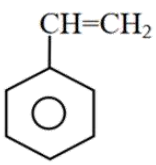
37 $C_6H_5COCOC_6H_5$ Benzil

$(C_6H_5)_2C(OH)CO_2H$ Benzilic acid


2, 4, 6 trinitrophenol (Picric acid)

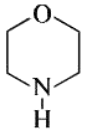

Nitrobenzene (Oil of mirbane)


Pyrene

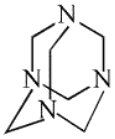

Styrene

Ph–CH=CH–Ph Stilbene

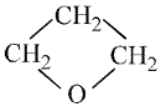
HETROCYCLIC COMPOUNDS



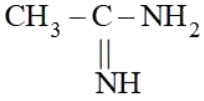
Morpholine



Hexa-methylenetetramine or Urotropine



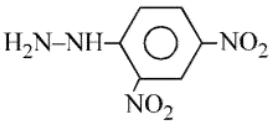
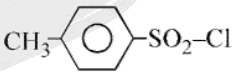
Oxitane



Amidine

SOME REAGENTS

LAH	Lithium aluminium hydride : $LiAlH_4$
SBH	Sodium borohydride $NaBH_4$
SBH	Sodium borohydride $NaBH_4$
PCC	Pyridinium chlorochromate

Raney Nickel	Ni–Al alloy
Wilkinson's Tris(Triphenylphosphine) catalyst	chlororhodium (I) $(PPh_3)_3RH^{\oplus}Cl^{\ominus}$
Bayer's reagent	1% dil. alkaline aq.sol. of $KMnO_4$
Braddy's reagent 2,4 DNP	
Liemieux reagent	$NaIO_4$ + dil.alk.$KMnO_4$
TEL	Tetra ethyl lead
Gillman's reagent	$R_2CuLi/[R_2Cu]^- Li^+$
Tollen's reagent	alk. sol. of $AgNO_3$
Fehling's reagent	alk. sol. of $CuSO_4$
Hinsberg's reagent	

EXERCISE – I

Q.1	**(B)**	**Q.2**	**(B)**	**Q.3**	**(D)**	**Q.4**	**(D)**	**Q.5**	**(C)**	**Q.6**	**()**
Q.7	**(A)**	**Q.8**	**(D)**	**Q.9**	**(A)**	**Q.10**	**(A)**	**Q.11**	**(A)**	**Q.2**	**(B)**
Q.13	**(D)**	**Q.14**	**(C)**	**Q.15**	**(B)**	**Q.16**	**(C)**	**Q.17**	**(D)**	**Q.18**	**(B)**
Q.19	**(A)**	**Q.20**	**(B)**	**Q.21**	**(C)**	**Q.22**	**(B)**	**Q.23**	**(B)**	**Q.24**	**(D)**
Q.25	**(C)**	**Q.26**	**(D)**	**Q.27**	**(D)**	**Q.28**	**(C)**	**Q.29**	**(B)**	**Q.30**	**(B)**
Q.31	**(B)**	**Q.32**	**(B)**	**Q.33**	**(B)**	**Q.34**	**(D)**	**Q.35**	**(C)**	**Q.36**	**(B)**
Q.37	**(C)**	**Q.38**	**(C)**	**Q.39**	**(B)**	**Q.40**	**(C)**	**Q.41**	**(A)**	**Q.42**	**(D)**
Q.43	**(B)**	**Q.44**	**(D)**	**Q.45**	**(B)**	**Q.46**	**(B)**	**Q.47**	**(A)**	**Q.48**	**(B)**
Q.49	**(D)**	**Q.50**	**(D)**	**Q.51**	**(C)**	**Q.52**	**(A)**	**Q.53**	**(D)**		

EXERCISE – II

Q.1 4-Ethyl octane

Q.2 3-Ethyl-2,4-dimethyl pentane

Q.3 5-Methyl hepta-1,3,6-triene

Q.4 Hepta-1,5-dien-3-yne

Q.5 2-Isopropyl-4-methylpent-1-ene
or 4-Methyl-2-(methyl ethyl) pent-1-ene

Q.6 3-Methoxyprop-1-ene

Q.7 1-Hydroxybut-3-en-2-one

Q.8 2-Ethylbut-2-en-1-ol

Q.9 3-nitroprop-2-en-1-ol

Q.10 4-hydroxyhex-5-en-1-yn-3-one

Q.11 4,6-Bis-[1,1-Dimethyl ethyl]
Nonane

Q.12 2-Formyl pentane nitrile

Q.13 2,2,6,7-tetramethylocatane

Q.14 3-Ethyl-4,6-dimethyloctane

Q.15 5 Methyl cyclohexa-1,3-diene

Q.16 4-Ethyl Pent-4-en-2-amine

Q.17 1,2-epoxy propane

Q.18 1,3,4-trimethyl-1-cyclobutene

Q.19 Methylene cyclohexane

Q.20 1-ethyl-2-methylcyclopentane

Q.21 1-methyl-3-(methyl ethyl cyclohexane)
or 3-isopropyl-1-methylcyclohexane

Q.22 Butyl cyclohexane

Q.23 Isopropylidenecyclopentane or 1-methyl ethylidene cyclopentane
Q.24 3-Bromo-4-cyclopropyl cyclopentane carboxylic acid
Q.25 Cyclopent-2-en-1-one
Q.26 1-(3-butenyl) cyclopentene
Q.27 1,2-diethenyl cyclohexene
Q.28 1-cyclohexyl-1-propanone
Q.29 Ethyl cyclohexanecarboxylate
Q.30 4-Bromo-2-ethyl cyclopentanone
Q.31 3-(hydroxymethyl)-5-methylheptanal
Q.32 2-Bromo-6-oxocyclohexanecarbaldehyde
Q.33 5-amino-6(1-methyl propyl) cyclo-hex-2-enol
Q.34 2-bromo-2-methyl cyclopentanone
Q.35 Methyl-2-methoxy-6-methyl-3-cyclohexene carboxylate
Q.36 Bicylo(2.2.1)heptane
Q.37 9-methyl bicyclo(4.2.1) nonane
Q.38 Bicyclo [**3**, **2**, **2**] Non-6-one
Q.39 spiro(4.5) decane
Q.40 2-Methyl Benzoyl Chloride
Q.41 1,3,3-Trimethyl cyclohexene
Q.42 **Bicyclo** (**2**. **2**. **1**) heptane
Q.43 8-chloro bicyclo(4.2.0) oct-2-ene
Q.44 2-cyclopenten-1-ol
Q.45 Ethyl-2-oxo-cyclo pentane carboxylate
Q.46 2-Formyl Benzoic acid
Q.47 3-Mthyl Benzoic acid
Q.48 Cyclohex-2-en-1,4-dione
Q.49 2-ethynyl cyclohexanol
Q.50 4-chloro-1-cyclopentylpentane-2-one
Q.51 1-Amino methyl-2-ethyl cyclohexanol
Q.52 1-propyl-4-isopropyl-1-cyclohexene or 4-(methyl ethyl)-1-propyl cyclohexene
Q.53 2-(2-oxo-cyclohexyl) propanoic acid
Q.54 3-ethoxy-1(1-nitrocyclohexyl)-hex-4-en-1-one
Q.55 1,3-diphenyl-1,4-pentadiene
Q.56 3-Formyl-2,5-dimethyl hexan-1-oic acid
Q.57 Isopropyl-2-hydroxy-7-methyl oct-5-en-1 -oate

Q.58 2-(Cycloprop-2-enyl)-5-methyl hex-1-ene

Q.59 Propyl-2,3-dihydroxy-2methyl butanoate

Q.60 3-Carbylamino-2-cyano-4-hydroxy-6mercapto heptandiamide

Q.61 2-Amido-6-chlorocarbonyl-3-methylidene6-oxo hex-4-enoic acid

Q.62 2-Amido/carbamoyl ethanoic acid

Q.63 3,7-Dimethyl-9-(2,2-dimethyl cyclohexyl) nona-2, 4, 6, 8-tetraen-1-ol

Q.64 Aminomethanoyl chloride

Q.65 Ethyl, chloromethanoate

Q.66 3-Formyl pentandioic acid

Q.67 7-Ethanoyloxy-3-ethoxylcarbonyl hepta-4, 6 dienoic acid

Q.68 2-Mercapto-4-methoxycyclopent-3-enol

Q.69 4-Ethoxy-3, 5, 7-trimethyl oct-2, 6 dienol

Q.70 2-Ethenyl-2-isocyano propan 1, 3 dinitrile

EXERCISE – III

Q.1 (D) **Q.2** (C) **Q.3** (B) **Q.4** (D) **Q.5** (C) **Q.6** (B)

Q.7 (A) → Q, (B) → S, (C) → T, (D) → P **Q.8** (A) → Q, (B) → S, (C) → R, (D) → P

Q.9 (A) → Q, (B) → S, (C) → T, (D) → P **Q.10** (A) → Q, (B) → S, (C) → R, (D) → P

Q.11 (A) → T, (B) → P, (C) → S, (D) → Q **Q.12** (A) → R, (B) → S, (C) → T, (D) → Q, (E) → P

Q.13 (D) **Q.14** (A) → Q, (B) → S, (C) → P, (D) → R

EXERCISE – IV

Q.1 **(C)**

Q.2 $\underset{5}{CH_3}-\underset{4}{CH_2}-\underset{3}{CH}=\underset{2}{CH}-\underset{1}{COOH}$

2-pentene, 1-oic acid and or 2-pentenoic acid

Q.3 (B) **Q.4** (B) **Q.5** (a) 5,6-diethyl-3-methyl-dec-4-ene

Q.6 N,N, 3-trimethyl-3-pentanamine **Q.7** (C) **Q.8** (B) **Q.9** (B, C) **Q.10** (4)

Q.11 (3) **Q.12** (4) **Q.13** (4) **Q.14** (D)