-ESSENTIAL COMMON NAMES-

ALKANE

1 $CH_3-\underset{\displaystyle CH_3}{\underset{|}{CH}}-CH-CH_3$ Isopentane

ALKENE

2 $CH_2=C=CH_2$ Allene

ALKYL HALIDE

3 $\underset{\displaystyle CHCl_2}{\underset{|}{CHCl_2}}$ Westron (Solvent)

4 $ClCH=CCl_2$ Westrosol or Triclean (Solvent)

ALCOHOL

5 $\underset{\displaystyle CH_2-OH}{\underset{|}{CH_2-OH}}$ Glycol or Ethylene Glycol

6 $\underset{\displaystyle OH}{\underset{|}{CH_2}}-\underset{\displaystyle OH}{\underset{|}{CH}}-\underset{\displaystyle OH}{\underset{|}{CH_2}}$ Glycerol

7 $CH_2=CH-CH_2-OH$ Allyl Alcohol

8 $CH_2=CH-OH$ Vinyl Alcohol

ETHER

9 $C_6H_5-O-CH_3$ Anisole (Methyl Phenyl Ether)

KETONE

10 CH_3COCH_3 Acetone

CARBOXYLIC ACID

11 $HO-\underset{\displaystyle CH_2-COOH}{\underset{|}{CH}}-COOH$ Malic acid

12 $HO\ CH_2\ COOH$ Glycolic Acid

13 $CH_2\begin{matrix}COOH\\COOH\end{matrix}$ Malonic acid

14 $\underset{\displaystyle CH_2-COOH}{\underset{|}{CH_2-COOH}}$ Succinic acid

15 $\underset{\displaystyle CH_2-COOH}{\underset{|}{\underset{|}{CH_2}}}$ Glutaric acid

16 $CH_3-\overset{\displaystyle O}{\overset{\|}{C}}-CH_2-\overset{\displaystyle O}{\overset{\|}{C}}-O-C_2H_5$

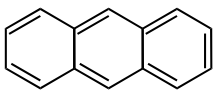
Aceto Acetic Ester **(AAE)** or Ethyl Aceto Acetate

N–DERIVATIVES

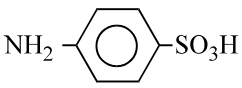
17 $CH_2=CH-C\equiv N$ Vinyl Cyanide or Acrylo Nitrile

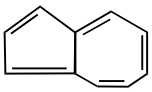
18 $NH_2-\overset{\displaystyle NH}{\overset{\|}{C}}-NH_2$ Guanidine

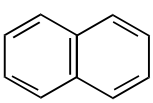
AROMATIC COMPOUNDS

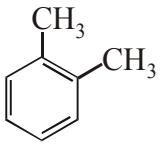
19  Anthracene

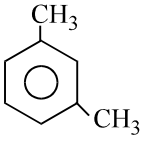
20  Thiophene

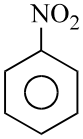
21  Sulphanilic acid

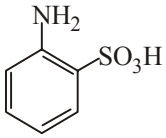
22  Azulene

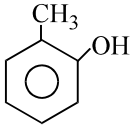
23  Napthalene

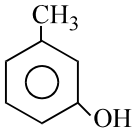
24  o–xylene

25  m-xylene

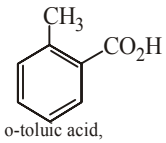
26  Nitrobenzene (oil of mirbane)

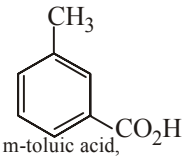
27  Orthanilic Acid

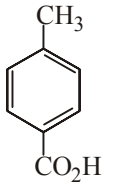
28  o-Cresol

29  m-Cresol

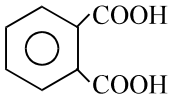
30 $C_6H_5CO_3H$ Perbenzoic acid

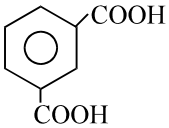
31 
o-toluic acid, m.p. 105°C

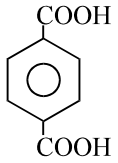

m-toluic acid, m.p. 111°C

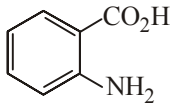

p-toluic acid, m.p. 180°C

Toluic acids

32  Phthalic acid

33  Isophthalic acid

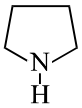
34  Terephthalic acid

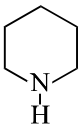
35 

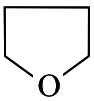
Anthranilic acid (o-aminobenzoic acid)

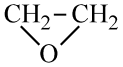
36 C_6H_5CHO Benzaldehyde

HETROCYCLIC COMPOUNDS

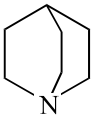
37  Pyrrolidine

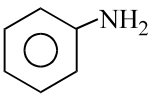
38  Piperidine

39  Tetrahydrofuran (THF)

40  Oxirane or Ethylene Oxide or

Oxo Cyclo Propane

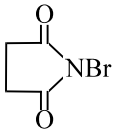
41  Quinuclidine

42  Aniline

SOME REAGENTS

43 Grignard's reagent RMgX

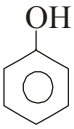
44 NBS N-Bromosuccinimide



POLAR PROTIC SOLVENTS

45 H –O–H Water

46 R–O–H Alcohol

47  Phenol

48 $CH_3–\underset{\underset{O}{\|}}{C}–OH$ Acetic acid

49 HF Hydrogen Fluoride

50 NH_3 Ammonia

POLAR APROTIC SOLVENTS

51 DMS Dimethyl sulphide $CH_3–S–CH_3$

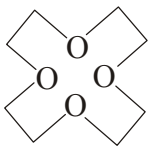
52 DMSO Dimethyl sulphoxide $Me_2S=O$

53 HMPT Hexamethylphosphoramide
or
HMPTA $O=P–(NMe_2)_3$

54 DMF Dimethyl formamide

$$H-\underset{\underset{O}{\|}}{C}-NMe_2$$

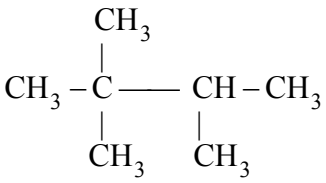
55 Crown ethers Cyclic polyethers



(12 – C – 4)

-DESIRABLE COMMON NAMES-

ALKANES

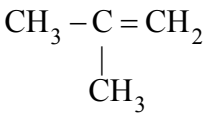
1  Triptane

2 $-CH_2-CH_2-CH(CH_3)-CH_3$ Isopentyl Group

ALKENES

3 $CH_3–CH_2–CH=CH_2$ α–Butylene

4 $CH_3–CH=CH–CH_3$ β–Butylene

5  Iso Butylene

ALKYNES

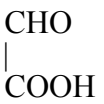
6 $HC\equiv CH$ Purified Acetylene or Norcelyne

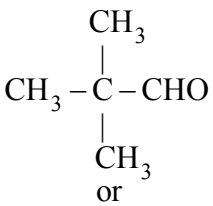
7 $CH_3–C\equiv CH$ Allylene

ETHER

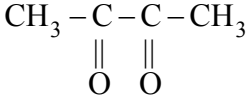
8 $CH_3CH(OCH_3)_2$ Methylal

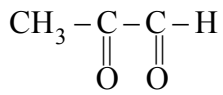
ALDEHYDE

9  Glyoxalic acid

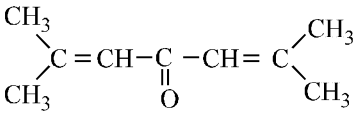
10  Pivaldehyde
or
$(CH_3)_3C–CHO$

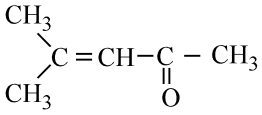
11 $(CH_3)_2CHCHO$ Isobutyraldehyde

12  Dimethyl Glyoxal

13  Methyl Glyoxal or Pyruvialdehyde

KETONE

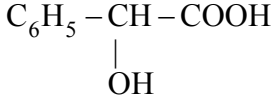
14  Phorone

15  Mesityl Oxide

16 $H_2C=C=O$ Ketene

CARBOXYLIC ACID

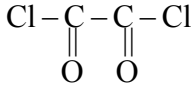
17 $CH_3–CO–COOH$ Pyruvic Acid

18  Mendalic Acid

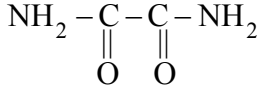
19 NH_2COOH Carbamic Acid
(Amino formic Acid)

20  Oxalic acid

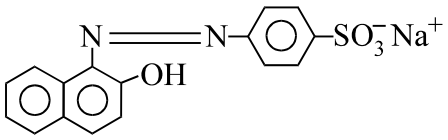
ACID DERIVATIVES

21  Oxalyl Chloride

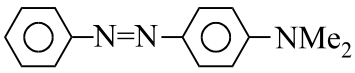
22 NH_2COONH_4 Ammonium Carbamate

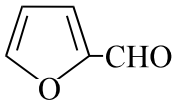
23  Oxanamide

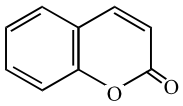
AROMATIC COMPOUNDS

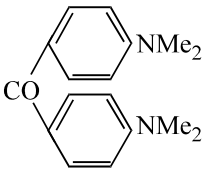
24 

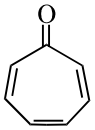
Orange II

25  Butter Yellow

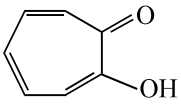
26  Furfural

27  Coumarine

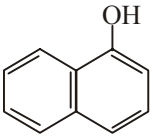
28  Michler's Ketone

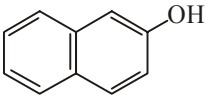
29  Tropone

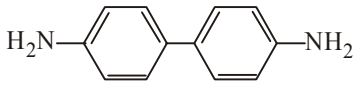
(Cycloheptatrienone)

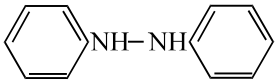
30  Tropolone

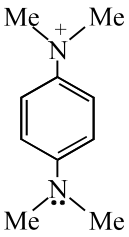
(Cycloheptatrienolone)

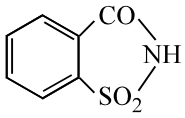
31  α–naphthol

32  β–naphthol

33  Benzidine

34  Hydrazobenzene

35  Wurster salts

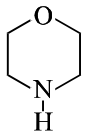
36 

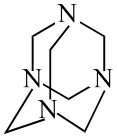
Saccharin (o-sulphobenzoic imide)

37 $C_6H_5COCOC_6H_5$ Benzil

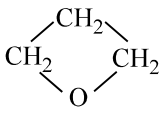
38 $(C_6H_5)_2C(OH)CO_2H$ Benzilic acid

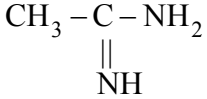
HETROCYCLIC COMPOUNDS

39  Morpholine

40 

Hexa-methylenetetramine or Urotropine

41  Oxitane

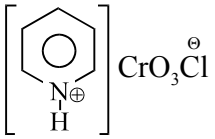
42  Amidine

SOME REAGENTS

43 LAH — Lithium aluminium hydride : $LiAlH_4$

44 SBH — Sodium borohydride $NaBH_4$

45 PCC — Pyridinium chlorochromate

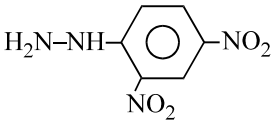


46 Raney Nickel — Ni–Al alloy

47 Wilkinson's catalyst — Tris(Triphenylphosphine) chlororhodium (I) $(PPh_3)_3RH^{\oplus}Cl^{\ominus}$

48 Bayer's reagent — 1% dil. alkaline aq.sol. of $KMnO_4$

49 Braddy's reagent 2,4 DNP



50 Liemieux reagent — $NaIO_4$ + dil.alk.$KMnO_4$

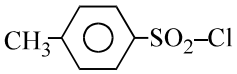
51 TEL — Tetra ethyl lead

52 Gillman's reagent — $R_2CuLi/[R_2Cu]^- Li^+$

53 Tollen's reagent — alk. sol. of $AgNO_3$

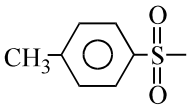
54 Fehling's reagent — alk. sol. of $CuSO_4$

55 Hinsberg's reagent

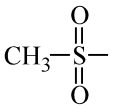


SOME GROUPS

56 Ts — Tosyl

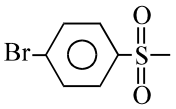


57 Ms — Mesyl

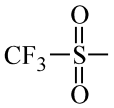


58 Ac — Acyl

59 Bs — Brosyl



60 Tf — Triflate



NOMENCLATURE OF ORGANIC COMPOUND AND COMMON NAMES

EXERCISE # O-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

NC0001

Q.2 Alicyclic compounds are :

(A) Aromatic compounds (B) Aliphatic cyclic compounds

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

NC0002

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

NC0003

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

NC0004

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

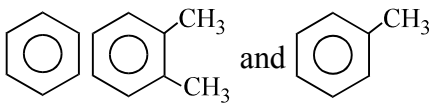
NC0005

Q.6 A group closely related compounds which can be expressed by a general formula & in which two consecutive 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

NC0006

Q.7  and

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

NC0007

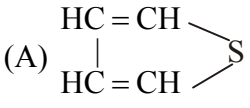
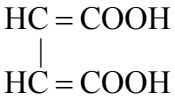
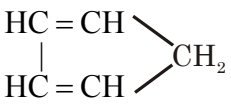
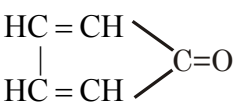
Q.8 The molecular formula of the first member of the family of alkenynes and its name is given by the set

(A) C_3H_6, Alkene (B) C_5H_6, Pent-1-en-3-yne

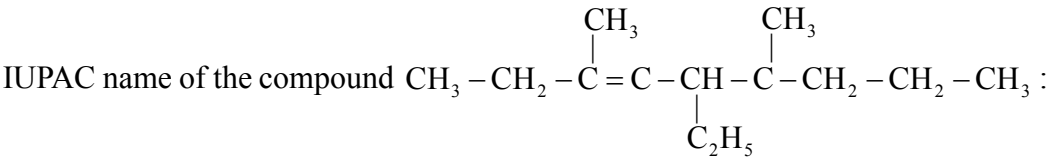
(C) C_6H_8, Hex-1-en-5-yne (D) C_4H_4, Butenyne

NC0008

Q.9 Which of the following is a heterocyclic compound :

(A)  (B)  (C)  (D) 

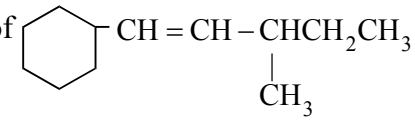
NC0009

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

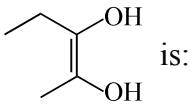
NC0010

Q.11 The IUPAC name of  is:

(A) 1-Cyclohexyl-3-methyl pent-1-ene (B) 3-Methyl-5-cyclohexyl pent-1-ene

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

NC0011

Q.12 IUPAC name of  is:

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

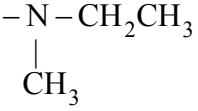
(C) 2-Methylbut-2-ene-2,3-diol (D) Pent-3-ene-3,4-diol

NC0012

Q.13 IUPAC name of CH_2=CH – CN is:

(A) Ethenenitrile (B) Vinyl cyanide (C) Cyono ethene (D) Prop-2-enenitrile

NC0013

Q.14 The IUPAC name of  is:

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

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

NC0014

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

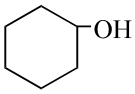
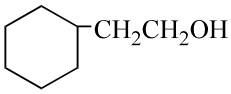
NC0015

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

(A) Conjugated alkadiene (B) cumulative alkadiene

(C) Isolated alkadiene (D) Allenes

NC0016

Q.17 (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

NC0017

Q.18 The IUPAC name of the following structure $(CH_3)C.C.C.(CH_3)CH(CH_3)$ 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

NC0018

Q.19 The IUPAC name of the following structure is $[CH_3CH(CH_3)]_2\ C(CH_2CH_3)C(CH_3)\ C(CH_2CH_3)_2$

(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

NC0019

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

NC0020

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

NC0021

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

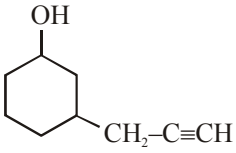
NC0022

Q.23 The IUPAC name of the compound $CH_3CH = CHCH=CHC\equiv CCH_3$ 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

NC0023

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

NC0024

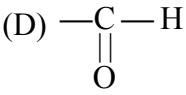
Q.25 The IUPAC name of β-ethoxy-α-hydroxy propionic acid (trivial name) is:

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

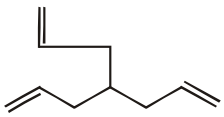
(C) 3-Ethoxy-2-hydroxy propanoic acid (D) All above

NC0025

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

(A) —C≡C— (B) —OH (C)  (D) 

NC0026

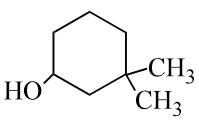
Q.27 The IUPAC name of the compound  is :

(A) 4-Prop-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

NC0027

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

NC0028

Q.29 The IUPAC name of $(C_2H_5)_2NCH_2\underset{\displaystyle Cl}{\underset{|}{C}}H.COOH$ 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

NC0029

Q.30 The IUPAC name of the compound is $CH_3-\underset{\displaystyle CH_3}{\underset{|}{CH}}-\underset{\displaystyle Ph}{\underset{|}{CH}}-NH_2$

(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

NC0030

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

(A) $CH_3CH_2CH_2\underset{\displaystyle Cl}{\underset{|}{C}}HCOOH$; 2-Chloro pentanoic acid

(B) $CH_3C\equiv\underset{\displaystyle CH_3}{\underset{|}{C}}CHCOOH$; 2-Methyl hex-3-enoic acid

(C) $CH_3CH_2CH=CHCOCH_3$; Hex-3-en-2-one

(D) $CH_3-\underset{\displaystyle CH_3}{\underset{|}{C}}HCH_2CH_2CHO$; 4-Methyl pentanal

NC0031

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

$$O=\underset{\displaystyle OH}{\underset{|}{C}}-CH_2-\underset{\displaystyle H-C=O}{\underset{|}{CH}}-CHO$$

(A) 3,3-Diformylpropanoic acid (B) 3-Formyl-4-oxo-butanoic acid

(C) 3,3-Dioxo propanoic acid (D) 3,3-Dicarbaldehyde propanoic acid

NC0032

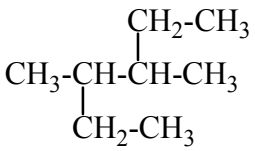
Q.33 The correct IUPAC name of compound $CH_3-CH_2-\underset{\displaystyle O}{\underset{||}{C}}-\underset{\displaystyle CN}{\underset{|}{C}}H-CHO$ is :

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

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

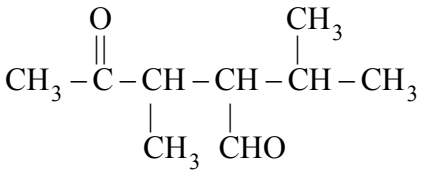
NC0033

Q.34 IUPAC name of compound



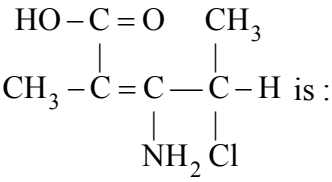
(A) 2, 3-diethyl butane
(B) 2-ethyl-3-methyl pentane
(C) 3-methyl-2-ethyl pentane
(D) 3,4-dimethyl hexane

NC0034

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

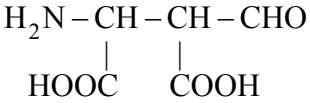
NC0035

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

NC0036

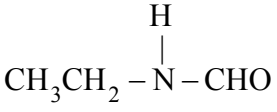
Q.37 The IUPAC name of the structure is:



(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

NC0037

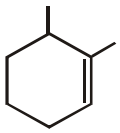
Q.38 One among the following is the correct IUPAC name of the compound



(A) N-Formyl aminoethane
(B) N-Ethyl formyl amine
(C) N-Ethyl methanamide
(D) Ethylamino methanal

NC0038

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

NC0039

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

(A) Cinnamic acid

(B) 1-Phenyl-2-carboxy ethane

(C) 3-Phenyl prop-2-enoic acid

(D) Dihydroxy-3-phenyl propionic acid

NC0040

Q.41 The IUPAC name of $BrCH_2-\underset{\displaystyle CONH_2}{\underset{|}{CH}}-CO-CH_2-CH_2CH_3$ 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

NC0041

Q.42 IUPAC name will be $\underset{\displaystyle CN}{\underset{|}{CH_2}}-\underset{\displaystyle CN}{\underset{|}{CH}}-\underset{\displaystyle CN}{\underset{|}{CH_2}}$

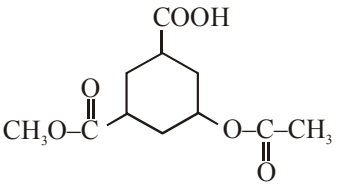
(A) 1,2,3-Tricyano propane

(B) Propane-1,2,3- trinitrile

(C) 1,2,3-Cyano propane

(D) Propane-1,2,3-tricarbonitrile

NC0042

Q.43 The IUPAC name of compound 

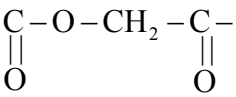
(A) 3-Carbonyl methoxy -5- Ethanoyl oxy cyclohexanoic aicd

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

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

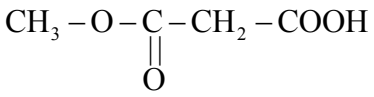
(D) 3-Methoxy carbonyl -5- Ethanoyl oxy cyclohexane carboxylic aicd

NC0043

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

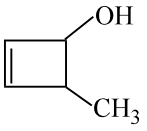
NC0044

Q.45 

The correct IUPAC systematic name of the above compound is:

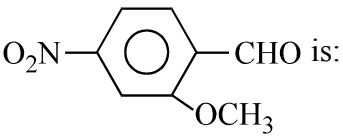
(A) 2-Acetoxy ethanoic acid
(B) 2-Methoxy carbonyl ethanoic acid
(C) 3-Methoxy formyl ethanoic acid
(D) 2-Methoxy formyl acetic acid

NC0045

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

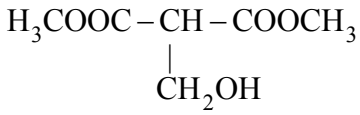
NC0046

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

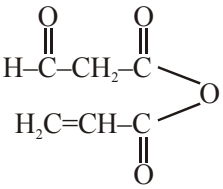
NC0047

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

NC0048

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

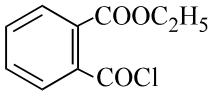
NC0049

Q.50 The IUPAC name of  is:

(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

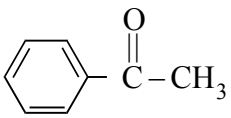
NC0050

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

NC0051

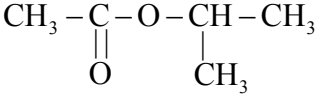
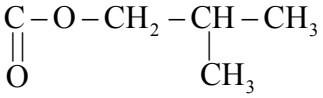
Q.52 The IUPAC name of  is:

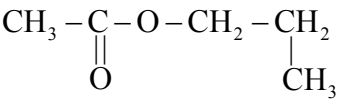
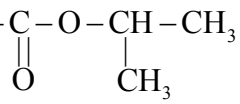
(A) Phenyl ethanone (B) Methyl phenyl ketone

(C) Acetophenone (D) Phenyl methyl ketone

NC0052

Q.53 Structural formula of isopropyl methanoate is :

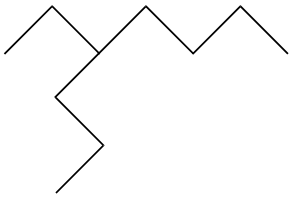
(A)  (B) 

(C)  (D) 

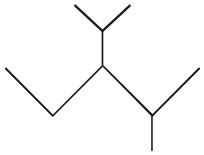
NC0053

EXERCISE # O-II

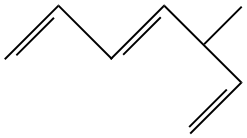
Give the IUPAC names for each of the following :

Q.1 

NC0054

Q.2 

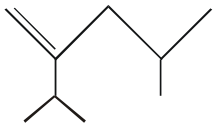
NC0055

Q.3 

NC0056

Q.4 

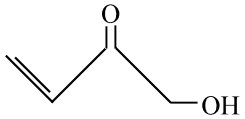
NC0057

Q.5 

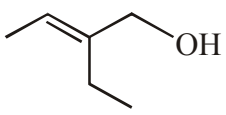
NC0058

Q.6 

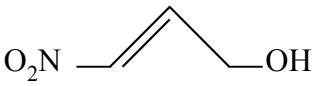
NC0059

Q.7 

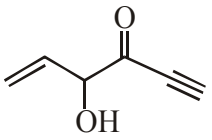
NC0060

Q.8 

NC0061

Q.9 

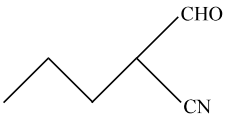
NC0062

Q.10 

NC0063

Q.11 

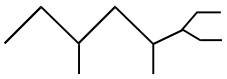
NC0064

Q.12 

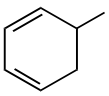
NC0065

Q.13 

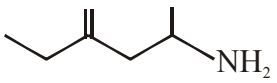
NC0066

Q.14 

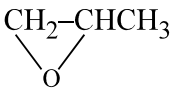
NC0067

Q.15 

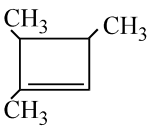
NC0068

Q.16 

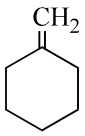
NC0069

Q.17 

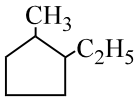
NC0070

Q.18 

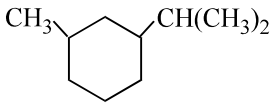
NC0071

Q.19 

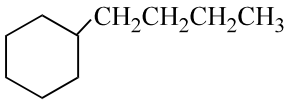
NC0072

Q.20 

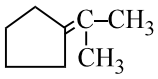
NC0073

Q.21 

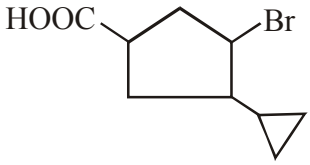
NC0074

Q.22 

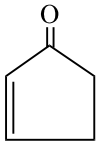
NC0075

Q.23 

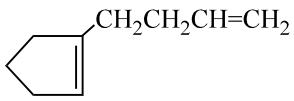
NC0076

Q.24 

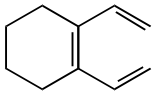
NC0077

Q.25 

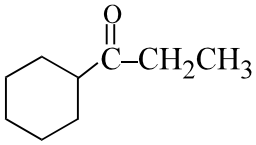
NC0078

Q.26 

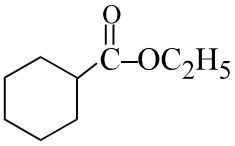
NC0079

Q.27 

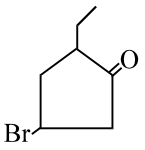
NC0080

Q.28 

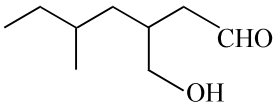
NC0081

Q.29 

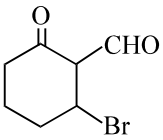
NC0082

Q.30 

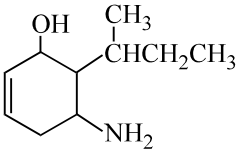
NC0083

Q.31 

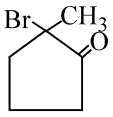
NC0084

Q.32 

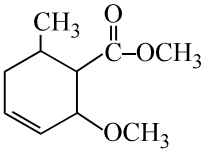
NC0085

Q.33 

NC0086

Q.34 

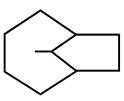
NC0087

Q.35 

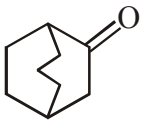
NC0088

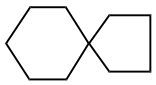
Q.36 

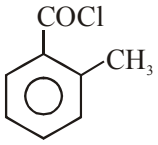
NC0089

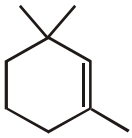
Q.37 

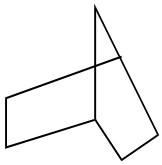
NC0090

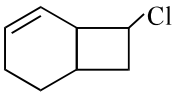
Q.38 

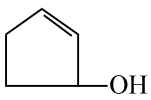
Q.39 

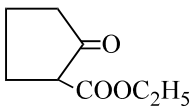
Q.40 

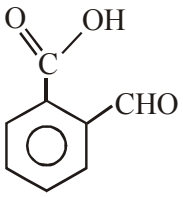
Q.41 

Q.42 

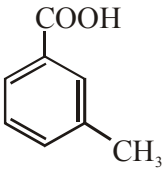
Q.43 

Q.44 

Q.45 

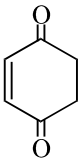
Q.46 

NC0091

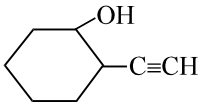
Q.47 

NC0092

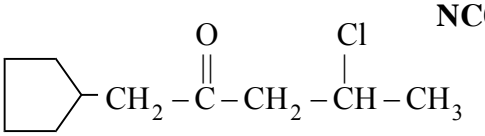
NC0093

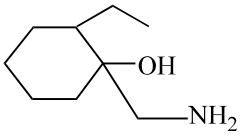
Q.48 

NC0094

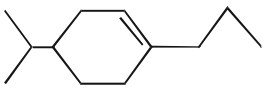
Q.49 

NC0095

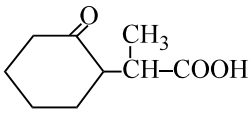
Q.50 

Q.51 

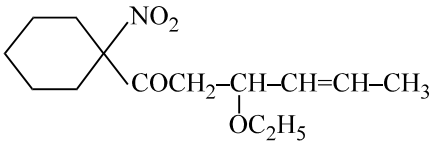
NC0096

Q.52 

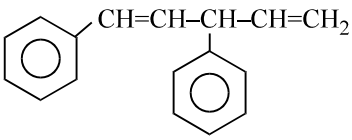
NC0097

Q.53 

NC0098

Q.54 

NC0099

Q.55 

NC0100

NC0101

NC0102

NC0103

NC0104

NC0105

NC0106

NC0107

NC0108

EXERCISE # S-I

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

NC0109

Q.2 The commercial name of trichloroethene is:

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

NC0110

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

NC0111

Q.4 The IUPAC name of the compound Glycerine $\underset{|}{\overset{}{CH_2}}-\underset{|}{\overset{}{CH}}-\underset{|}{\overset{}{CH_2}}$ is:
OH OH OH

(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

NC0112

Q.5 Which of the following is crotonic acid:

(A) CH_2= CH–COOH (B) C_6H_5–CH=CH–COOH

(C) CH_3–CH=CH–COOH (D) $\begin{matrix} CH-COOH \\ \| \\ CH-COOH \end{matrix}$

NC0113

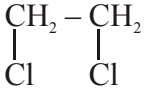
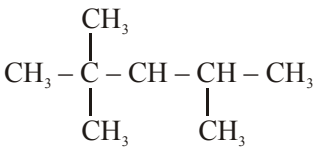
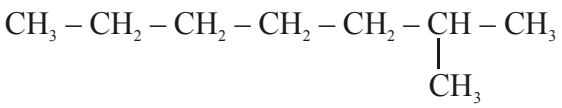
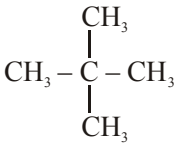
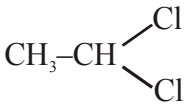
Q.6 The group of heterocylic compounds is:

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

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

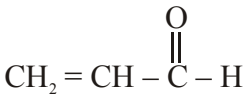
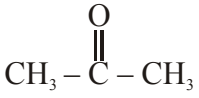
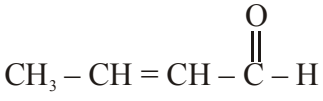
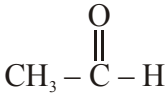
NC0114

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) 

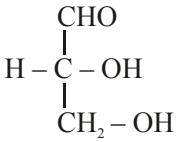
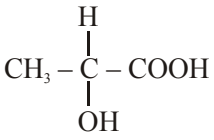
NC0115

Q.8

Column - I (Common Name)	**Column - II (Structural formula)**
(A) Acetone	(P) 
(B) Acetaldehyde	(Q) 
(C) Crotonaldehyde	(R) 
(D) Acrolein	(S) 

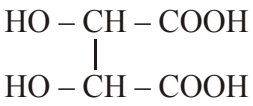
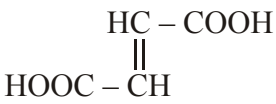
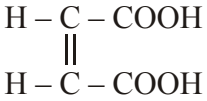
NC0116

Q.9

Column - I (Common Name)	**Column - II (Structural formula)**
(A) 	(P) Lactic acid (In milk)
(B) 	(Q) Glyoxal
(C) $H_2N - CH_2 - COOH$	(R) Glyceraldehyde
(D) 	(S) Glycine
	(T) Glycerol

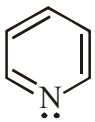
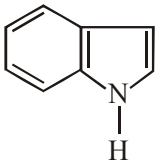
NC0117

Q.10

Column - I (Common Name)	**Column - II (Structural formula)**
(A) Fumaric acid	(P) 
(B) Adipic acid	(Q) 
(C) Maleic acid	(R) 
(D) Tartaric acid	(S) $COOH(CH_2)_4COOH$

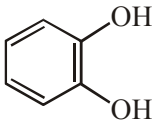
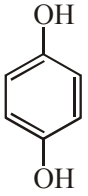
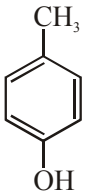
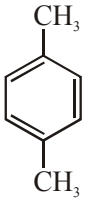
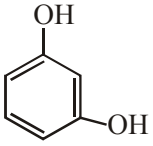
NC0118

Q.11

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

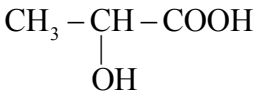
NC0119

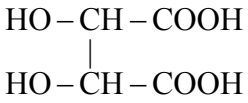
Q.12

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) 

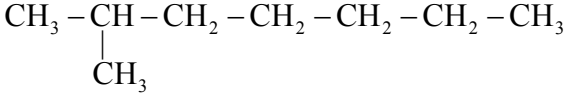
NC0120

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

(A) Lactic acid 

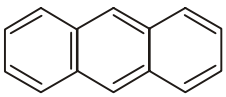
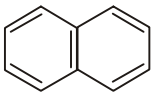
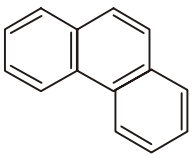
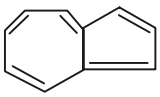
(B) Tartaric acid 

(C) Pivaldehyde $CH_3C(CH_3)_2CHO$

(D) Iso-octane 

NC0121

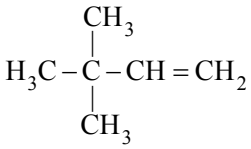
Q.14

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

NC0122

EXERCISE # JEE-ADVANCED & MAINS

Q.1 The IUPAC name of the compound having the formula is : **[JEE 1984]**



(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

NC0123

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

NC0124

Q.3 The IUPAC name of the compound CH_2=CH–$CH(CH_3)_2$ is :

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

(C) 2-vinyl propane (D) None of the above **[JEE 1987]**

NC0125

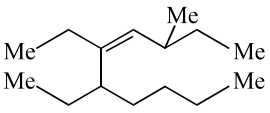
Q.4 The number of sigma and pi-bonds in 1-butene 3-yne are: **[JEE 1989]**

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

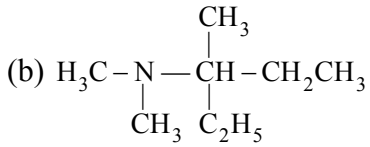
(C) 8 sigma and 2 pi (D) 6 sigma and 4 pi

NC0126

Q.5 Write I.U.P.A.C name of following :

(a) 

Me = methyl group

(b)  **[JEE 1990]**

NC0127

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

NC0128

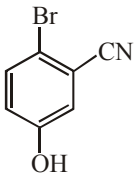
Q.7 The IUPAC name of C_6H_5COCl is

(A) Benzoyl chloride (B) Benzene chloro ketone

(C) Benzene carbonyl chloride (D) Chloro phenyl ketone **[JEE 2006]**

NC0129

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

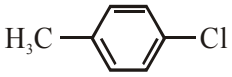


(A) 4-Bromo-3-cyanophenol (B) 2-Bromo-5-hydroxybenzonitrile

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

NC0130

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

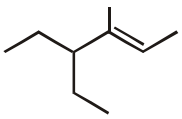


(A) 4-methylchlorobenzene (B) 4-chlorotoluene

(C) 1-chloro-4-methylbenzene (D) 1-methyl-4-chlorobenzene

NC0131

10. The IUPAC name of the following compound is : **[JEE Mains On_line 2018]**



(A) 4-methyl-3-ethylhex-4-ene (B) 4,4-diethyl-3-methylbut-2-ene

(C) 3-ethyl-4-methylhex-4-ene (D) 4-ethyl-3-methylhex-2-ene

NC0132

ANSWER-KEY

EXERCISE # O-I

Q.1	**B**	**Q.2**	**B**	**Q.3**	**D**	**Q.4**	**D**	**Q.5**	**C**	**Q.6**	**B**	**Q.7**	**A**
Q.8	**D**	**Q.9**	**A**	**Q.10**	**A**	**Q.11**	**A**	**Q.12**	**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 # O-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-methyl pent-1-ene

or 4-Methyl-2-(methyl ethyl) pent-1-ene

Q.6 3-Methoxypropene

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 cyclobutene

Q.19 Methylene cyclohexane

Q.20 1-ethyl-2-methylcyclopentane

Q.21 1-methyl-3-(methyl ethyl) cyclohexane
or 1-isopropyl-3-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-cyclopentyl pentane-2-one

Q.51 1-Amino methyl-2-ethyl cyclohexanol

Q.52 4-isopropyl -1-propyl 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

EXERCISE # S-I

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) R , (C) S , (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 # JEE-ADVANCED & MAINS

Q.1 C

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

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

(b) N,N, 3-trimethyl-3-pentanamine

Q.6 Butane-1,4-dioic acid **Q.7** C **Q.8** B **Q.9** B,C

10. D