NURTURE COURSE

NOMENCLATURE OF ORGANIC COMPOUND AND COMMON NAMES

NOMENCLATURE OF ORGANIC COMPOUND AND COMMON NAMES

-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. $CH_2\begin{matrix}\diagup COOH\\ \diagdown COOH\end{matrix}$ 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. $CH_3-\overset{\displaystyle O}{\overset{\|}{C}}-CH_2-\overset{\displaystyle O}{\overset{\|}{C}}-O-C_2H_5$

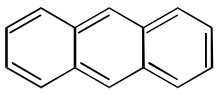
Aceto Acetic Ester **(AAE)** or Ethyl Aceto Acetate

N–DERIVATIVES

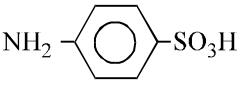
17. $CH_2=CH-C\equiv N$ Vinyl Cyanide or Acrylo Nitrile

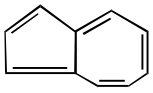
18. $NH_2-\overset{\displaystyle NH}{\overset{\|}{C}}-NH_2$ Guanidine

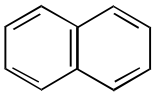
AROMATIC COMPOUNDS

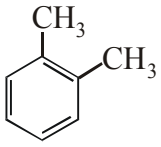
19.  Anthracene

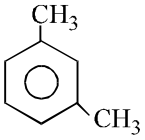
20.  Thiophene

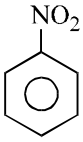
21.  Sulphanilic acid

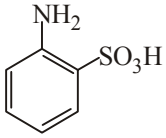
22.  Azulene

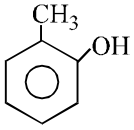
23.  Napthalene

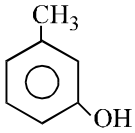
24.  o–xylene

25.  m-xylene

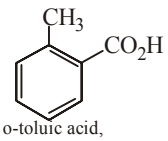
26.  Nitrobenzene (oil of mirbane)

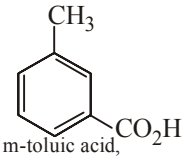
27.  Orthanilic Acid

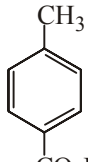
28.  o-Cresol

29.  m-Cresol

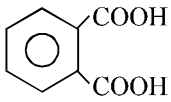
30. $C_6H_5CO_3H$ Perbenzoic acid

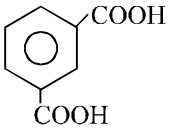
31. 
o-toluic acid, m.p. 105°C

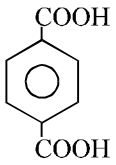

m-toluic acid, m.p. 111°C

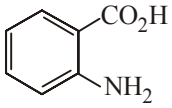

p-toluic acid, m.p. 180°C

Toluic acids

32.  Phthalic acid

33.  Isophthalic acid

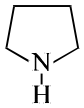
34.  Terephthalic acid

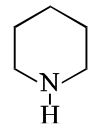
35. 

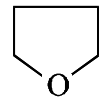
Anthranilic acid (o-aminobenzoic acid)

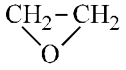
36. C_6H_5CHO Benzaldehyde

HETROCYCLIC COMPOUNDS

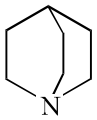
37.  Pyrrolidine

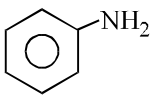
38.  Piperidine

39.  Tetrahydrofuran (THF)

40.  Oxirane or Ethylene Oxide or

Oxo Cyclo Propane

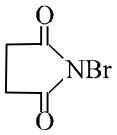
41.  Quinuclidine

42.  Aniline

SOME REAGENTS

43. Grignard's reagent RMgX

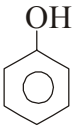
44. NBS N-Bromosuccinimide



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 $CH_3–S–CH_3$

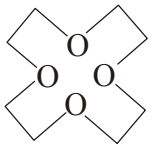
52. DMSO Dimethyl sulphoxide $Me_2S=O$

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

54. DMF Dimethyl formamide

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

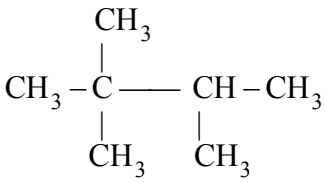
55. Crown ethers Cyclic polyethers



(12 – C – 4)

-DESIRABLE COMMON NAMES-

ALKANES

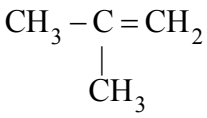
1.  Triptane

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

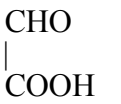
6. $HC\equiv CH$ Purified Acetylene or Norcelyne

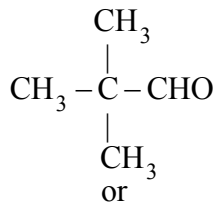
7. $CH_3-C\equiv CH$ Allylene

ETHER

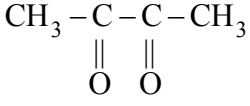
8. $CH_3CH(OCH_3)_2$ Methylal

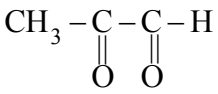
ALDEHYDE

9.  Glyoxalic acid

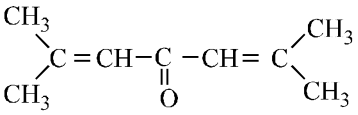
10.  Pivaldehyde
or
$(CH_3)_3C-CHO$

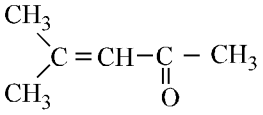
11. $(CH_3)_2CHCHO$ Isobutyraldehyde

12.  Dimethyl Glyoxal

13.  Methyl Glyoxal or Pyruvialdehyde

KETONE

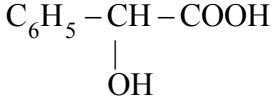
14.  Phorone

15.  Mesityl Oxide

16. $H_2C=C=O$ Ketene

CARBOXYLIC ACID

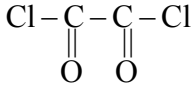
17. $CH_3-CO-COOH$ Pyruvic Acid

18.  Mendalic Acid

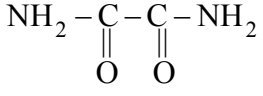
19. NH_2COOH Carbamic Acid (Amino formic Acid)

20.  Oxalic acid

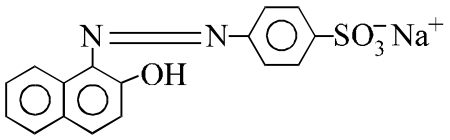
ACID DERIVATIVES

21.  Oxalyl Chloride

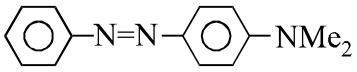
22. NH_2COONH_4 Ammonium Carbamate

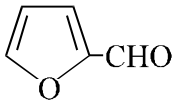
23.  Oxanamide

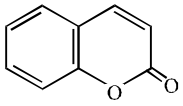
AROMATIC COMPOUNDS

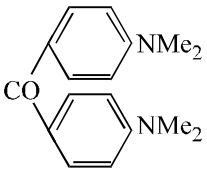
24. 

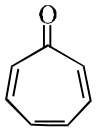
Orange II

25.  Butter Yellow

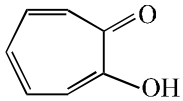
26.  Furfural

27.  Coumarine

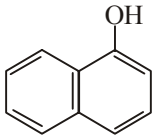
28.  Michler's Ketone

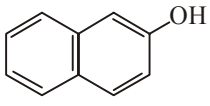
29.  Tropone

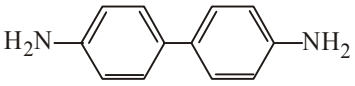
(Cycloheptatrienone)

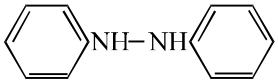
30.  Tropolone

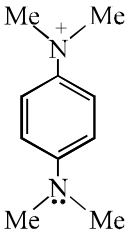
(Cycloheptatrienolone)

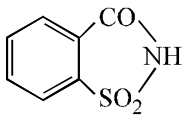
31.  α–naphthol

32.  β–naphthol

33.  Benzidine

34.  Hydrazobenzene

35.  Wurster salts

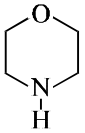
36. 

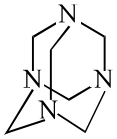
Saccharin (o-sulphobenzoic imide)

37. $C_6H_5COCOC_6H_5$ Benzil

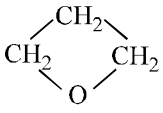
38. $(C_6H_5)_2C(OH)CO_2H$ Benzilic acid

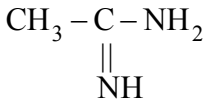
HETROCYCLIC COMPOUNDS

39.  Morpholine

40. 

Hexa-methylenetetramine or Urotropine

41.  Oxitane

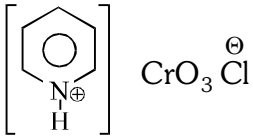
42.  Amidine

SOME REAGENTS

43. LAH — Lithium aluminium hydride : $LiAlH_4$

44. SBH — Sodium borohydride $NaBH_4$

45. PCC — Pyridinium chlorochromate

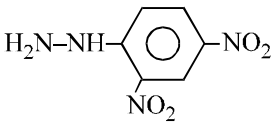


46. Raney Nickel — Ni–Al alloy

47. Wilkinson's — Tris(Triphenylphosphine) catalyst 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.$KMnO_4$

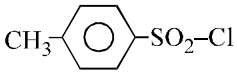
51. TEL — Tetra ethyl lead

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

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

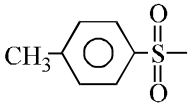
54. Fehling's reagent — alk. sol. of $CuSO_4$

55. Hinsberg's reagent

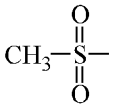


SOME GROUPS

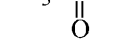
56. Ts — Tosyl



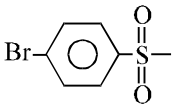
57. Ms — Mesyl



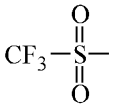
58. Ac — Acyl



59. Bs — Brosyl



60. Tf — Triflate



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?

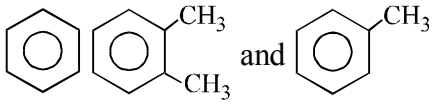
(A) Ethyl ethanoate (B) Methyl ethanoate

(C) Methyl methanoate (D) Ethyl methanoate

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

Q.7  and

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

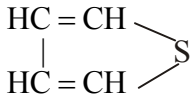
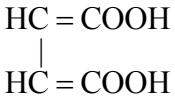
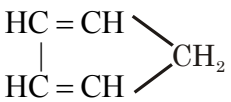
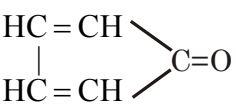
(A) 6,4,5 (B) 4,5,6 (C) 5,4,6 (D) 6,2,1

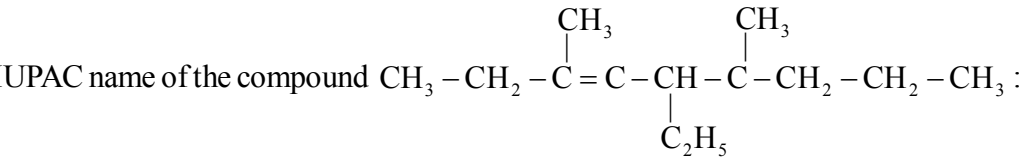
Q.8 The molecular formula of the first member of the family of alkenynes and its name is given by the set

(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

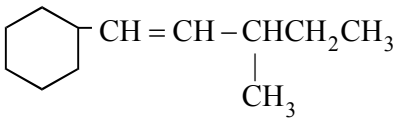
Q.9 Which of the following is a heterocyclic compound :

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

Q.10 The correct IUPAC name of the compound  :

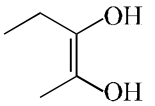
(A) 5-Ethyl-3, 6-dimethyl non-3-ene (B) 5-Ethyl-4, 7-dimethyl non-3-ene

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

Q.11 The IUPAC name of  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

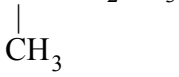
Q.12 IUPAC name of  is:

(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 CH_2=CH – CN is:

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

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

Q.15 The IUPAC name of acetyl acetone is :

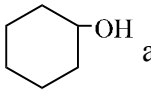
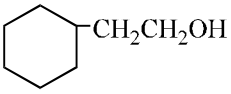
(A) Pentane-2,5- dione (B)Pentane -2,4-dione

(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

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

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

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

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:

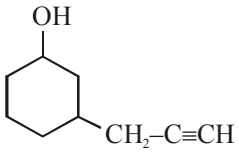
(A) 1-Chloro-1-ethoxy propane (B) 1-Amino-1-ethoxypropane

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

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

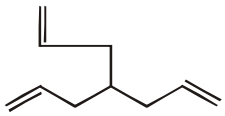
Q.25 The IUPAC name of β-ethoxy-α-hydroxy propionic acid (trivial name) is:

(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

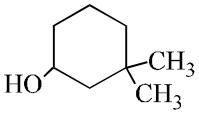
Q.26 As per IUPAC rules, which one of the following groups, will be regarded as the principal functional group ?

(A) —C≡C— (B) —OH (C) $-\underset{\underset{O}{\|}}{C}-$ (D) $-\underset{\underset{O}{\|}}{C}-H$

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

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 $(C_2H_5)_2NCH_2\underset{\displaystyle Cl}{\underset{|}{C}}H.COOH$ 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

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

(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

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

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

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

(A) 3,3-Diformylpropanoic acid
(B) 3-Formyl-4-oxo-butanoic acid
(C) 3,3-Dioxo propanoic acid
(D) 3,3-Dicarbaldehyde propanoic acid

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

(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

$$CH_3\text{-}\underset{\underset{CH_2\text{-}CH_3}{|}}{CH}\text{-}\underset{\underset{CH_2\text{-}CH_3}{|}}{CH}\text{-}CH_3$$

(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 $CH_3-\overset{\overset{O}{\|}}{C}-\underset{\underset{CH_3}{|}}{CH}-\underset{\underset{CHO}{|}}{CH}-\overset{\overset{CH_3}{|}}{CH}-CH_3$ 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 $CH_3-\overset{\overset{HO-C=O}{|}}{C}=\underset{\underset{NH_2}{|}}{C}-\overset{\overset{CH_3}{|}}{\underset{\underset{Cl}{|}}{C}}-H$ 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:

$$H_2N-\underset{\underset{HOOC}{|}}{CH}-\underset{\underset{COOH}{|}}{CH}-CHO$$

(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

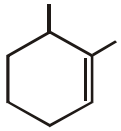
Q.38 One among the following is the correct IUPAC name of the compound

$$CH_3CH_2-\overset{\overset{H}{|}}{N}-CHO$$

(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 $C_6H_5CH{=}CH{-}COOH$ is :

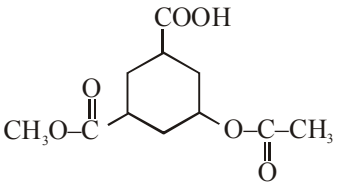
(A) Cinnamic acid
(B) 1-Phenyl-2-carboxy ethane
(C) 3-Phenyl prop-2-enoic acid
(D) Dihydroxy-3-phenyl propionic acid

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

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

(A) 1,2,3-Tricyano propane
(B) Propane-1,2,3- trinitrile
(C) 1,2,3-Cyano propane
(D) Propane-1,2,3-tricarbonitrile

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

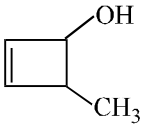
Q.44 The IUPAC name of $CH_3-\underset{\underset{O}{||}}{C}-O-CH_2-\underset{\underset{O}{||}}{C}-OH$ is:

(A) 1-Acetoxy acetic acid
(B) 2-Acetoxy ethanoic acid
(C) 2-Ethanoyloxyacetic acid
(D) 2-Ethanoyloxyethanoic acid

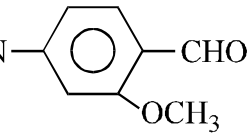
Q.45 $CH_3-O-\underset{\underset{O}{\|}}{C}-CH_2-COOH$

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

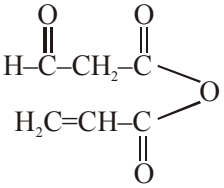
Q.47 The IUPAC name of  is:

(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

$$H_3COOC-\underset{\underset{CH_2OH}{|}}{CH}-COOCH_3$$

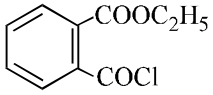
(A) 2-(Hydroxy methyl) methyl propanedioate
(B) Methyl-2-(hydroxy methyl) propanedioate
(C) 2-(Hydroxy methyl) dimethyl propanedioate
(D) None of these

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 $OHC-CH_2-CH_2-\underset{\underset{CH_2-CHO}{|}}{CH}-CH_2-CHO$ 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

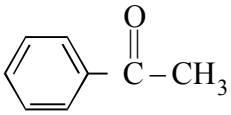
Q.51 The IUPAC name of  is :

(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:

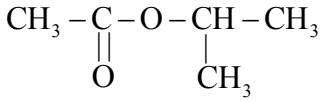
(A) Phenyl ethanone

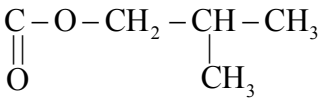
(B) Methyl phenyl ketone

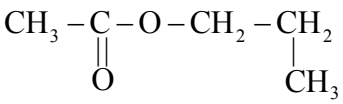
(C) Acetophenone

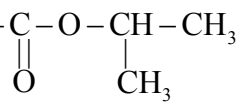
(D) Phenyl methyl ketone

Q.53 Structural formula of isopropyl methanoate is :

(A) 

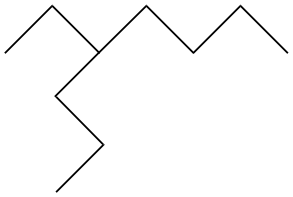
(B) 

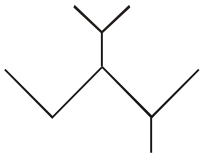
(C) 

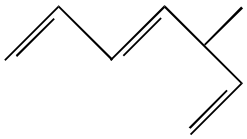
(D) 

EXERCISE # II

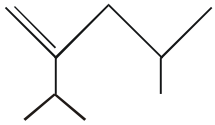
Give the IUPAC names for each of the following :

Q.1 

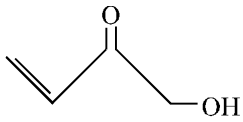
Q.2 

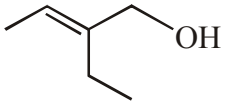
Q.3 

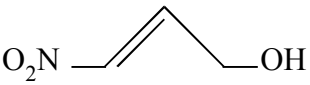
Q.4 

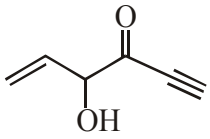
Q.5 

Q.6 

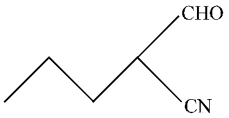
Q.7 

Q.8 

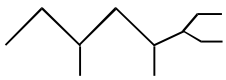
Q.9 

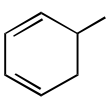
Q.10 

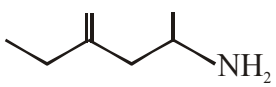
Q.11 

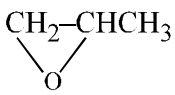
Q.12 

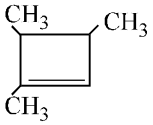
Q.13 

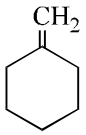
Q.14 

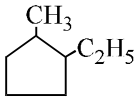
Q.15 

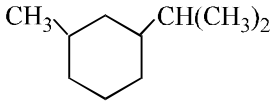
Q.16 

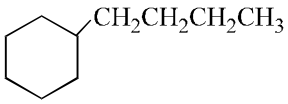
Q.17 

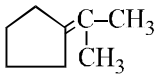
Q.18 

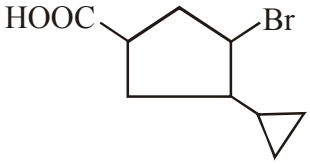
Q.19 

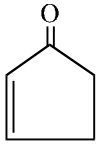
Q.20 

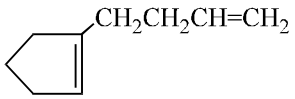
Q.21 

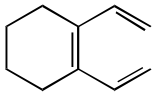
Q.22 

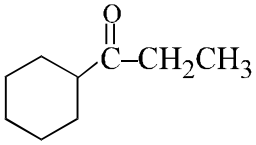
Q.23 

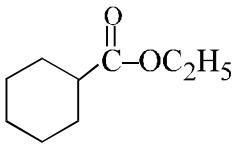
Q.24 

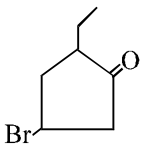
Q.25 

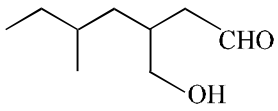
Q.26 

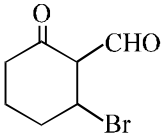
Q.27 

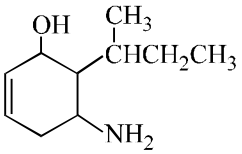
Q.28 

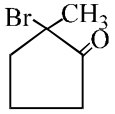
Q.29 

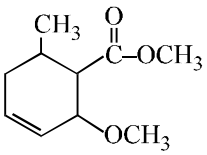
Q.30 

Q.31 

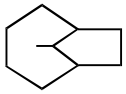
Q.32 

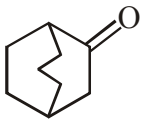
Q.33 

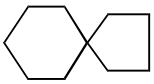
Q.34 

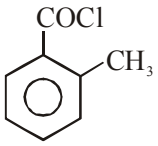
Q.35 

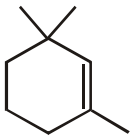
Q.36 

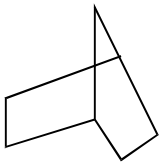
Q.37 

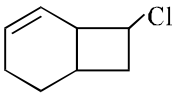
Q.38 

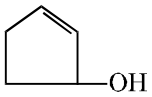
Q.39 

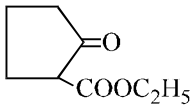
Q.40 

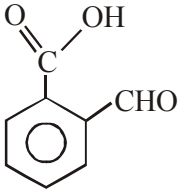
Q.41 

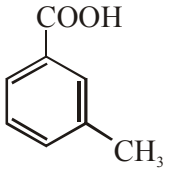
Q.42 

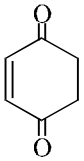
Q.43 

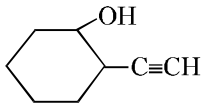
Q.44 

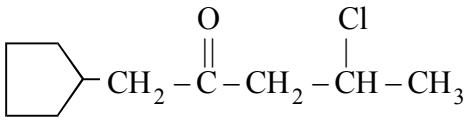
Q.45 

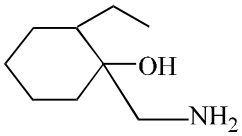
Q.46 

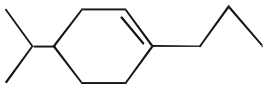
Q.47 

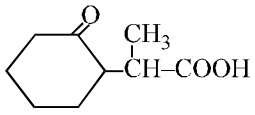
Q.48 

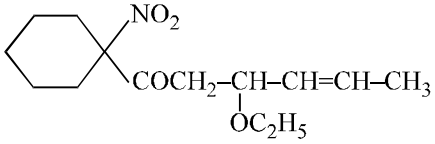
Q.49 

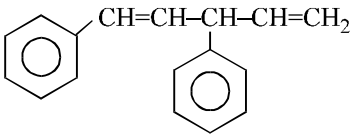
Q.50 

Q.51 

Q.52 

Q.53 

Q.54 

Q.55 

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 $\underset{|}{\overset{OH}{CH_2}}-\underset{|}{\overset{OH}{CH}}-\underset{|}{\overset{OH}{CH_2}}$ 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) CH_2= CH–COOH (B) C_6H_5–CH=CH–COOH

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

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) $\underset{Cl}{\overset{|}{CH_2}}-\underset{Cl}{\overset{|}{CH_2}}$
(B) Neopentane	(Q) $CH_3-\underset{CH_3}{\overset{CH_3}{\overset{|}{\underset{|}{C}}}}-CH-\underset{CH_3}{\overset{|}{CH}}-CH_3$
(C) Ethylidene chloride (Geminal dihalide)	(R) $CH_3-CH_2-CH_2-CH_2-CH_2-\underset{CH_3}{\overset{|}{CH}}-CH_3$
(D) Ethylene Dichloride (Vicinal dihalide)	(S) $CH_3-\underset{CH_3}{\overset{CH_3}{\overset{|}{\underset{|}{C}}}}-CH_3$
	(T) $CH_3-CH\begin{matrix}Cl\\Cl\end{matrix}$

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) $CH_3 - \overset{\overset{O}{\|\|}}{C} - H$

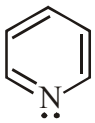
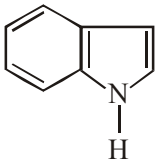
Q.9

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

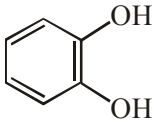
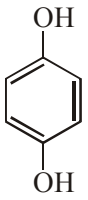
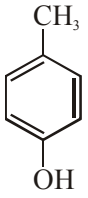
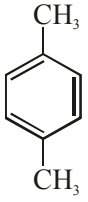
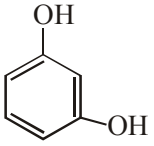
Q.10

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

Q.11

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

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:

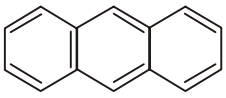
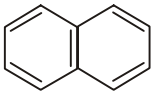
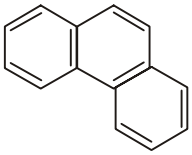
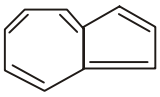
(A) Lactic acid $CH_3-\underset{\underset{OH}{|}}{CH}-COOH$

(B) Tartaric acid $HO-\underset{\underset{HO-CH-COOH}{|}}{CH}-COOH$

(C) Pivaldehyde $CH_3C(CH_3)_2CHO$

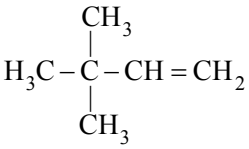
(D) Iso-octane $CH_3-\underset{\underset{CH_3}{|}}{CH}-CH_2-CH_2-CH_2-CH_2-CH_3$

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 : **[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

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

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

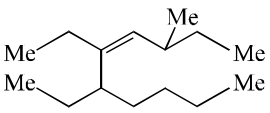
(C) 2-vinyl propane (D) None of the above **[JEE 1987]**

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

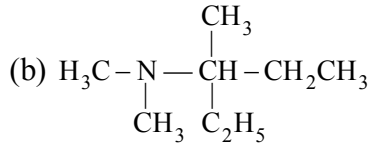
(A) 5 sigma and 5 pi (B) 7 sigma and 3 pi

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

Q.5 Write I.U.P.A.C name of following : **[JEE 1990]**

(a) 

Me = methyl group

(b) 

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

Q.7 The IUPAC name of C_6H_5COCl is

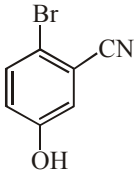
(A) Benzoyl chloride

(B) Benzene chloro ketone

(C) Benzene carbonyl chloride

(D) Chloro phenyl ketone **[JEE 2006]**

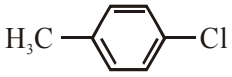
Q.8 The IUPAC name of the following compound is **[JEE 2009]**



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

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

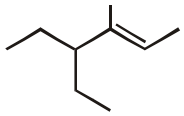
Q.9 The IUPAC name(s) of the following compound is(are) : **[JEE 2017]**



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

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

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

ANSWER KEY

EXERCISE # 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 # 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 # 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)-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 # IV

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

Important Notes

Important Notes