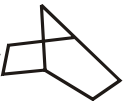
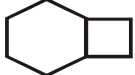
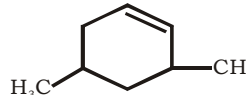
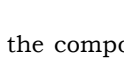
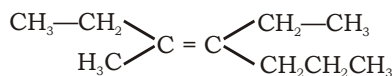


Instructor: ER. S.K. SINGH (B. Tech, M.Tech) M.N.N.I.T. Alld.

1. The name of $\text{CH}_3\text{CH}(\text{C}_6\text{H}_5)\text{CH}_2\text{CH}(\text{OH})\text{CH}_2\text{CH}_3$ is:
- (a) 1-ethyl-3-phenyl-1-butanol
(b) 2-phenyl-4-hexanol
(c) 5-phenyl-3-hexanol
(d) 5-benzyl-3-hexanol
2. The name of  is:
- (a) bicyclo [2.2.1] heptane (b) methylene cyclohexane
(c) ethylene cyclopentane (d) none of these
3. The IUPAC name of $\text{CH}_2=\text{CH}_2$ attached to $\text{CH}_3\text{CH}_2-\text{CH}_2-\text{CH}-\text{CH}_2\text{CH}_2\text{CH}_3$ is:
- (a) 3-propyl-1-hexene (b) 3, 3-dipropyl-1-propene
(c) 4-ethenyl-heptane (d) none of these
4. The IUPAC name of $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)-\text{CH}(\text{CH}_3)-\text{CH}_2-\text{CH}(\text{CH}_2\text{CH}_3)\text{CH}_3$ is:
- (a) 3, 4-dimethyl-6-ethylheptane
(b) 2-ethyl-4, 5-dimethylheptane
(c) 3, 4, 6-trimethyloctane
(d) 3, 5, 6-trimethyloctane
5. The IUPAC name of $\text{CH}_3-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{CH}(\text{CH}_3)-\text{CH}(\text{CH}_2\text{CH}_2\text{CH}_3)-\text{CH}_3$ is:
- (a) 2, 5-dimethyl-3-propylheptane
(b) 3, 6-dimethyl-5-propylheptane
(c) 3-methyl-5-isopropyloctane
(d) none of these
6. The name of the compound  is:
- (a) bicyclo [2.2.2] octane (b) bicyclo [3.2.1] octane
(c) bicyclo [4.1.1] loctane (d) bicyclo [4.2.0] octane
7. The IUPAC name of $\text{CH}_3-\text{C}(\text{CH}_3)(\text{CH}_2)-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{CH}_3$ is:
- (a) 2, 2-dimethyl-4-ethylpentane
(b) 3, 5, 5-trimethylhexane
(c) 2, 2, 4-trimethylhexane
(d) 1-tert. butyl-2-ethylpropane
8. The IUPAC name of $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}(\text{CH}_3)-\text{CH}_3$ is:
- (a) 4-sec. butyl-5-methylhexane
(b) 2-methyl-3-sec. butylhexane
(c) 2-methyl-3-isobutylhexane
(d) 3-methyl-4-isopropylheptane
9. The correct name of the structure $\text{H}_3\text{C}-\text{C}(\text{H})=\text{C}(\text{H})-\text{C}(\text{H})=\text{C}(\text{H})-\text{CH}_3$ is:
- (a) (E), (E)-2, 4-hexadiene (b) (Z), (Z)-2, 4-hexadiene
(c) (E), (Z)-3, 5-hexadiene (d) (Z), (E)-2, 4-hexadiene
10. Which of the following is a cumulated diene?
- (a) 1,3-Pentadiene (b) 1, 4-Pentadiene
(c) 2,3-Pentadiene (d) 1, 5-Hexadiene
11. The IUPAC name of $\text{CH}_3-\text{C}(\text{CH}_2\text{CH}_3)=\text{C}(\text{H})-\text{C}(\text{H})-\text{CH}_3$ is:
- (a) 3-methyl-4-hexyne (b) 4-methyl-2-hexyne
(c) 4-ethyl-2-pentyne (d) 2-ethyl-3-pentyne
12. The IUPAC name of  is:
- (a) 3, 5-dimethylcyclohexene
(b) 4, 6-dimethylcyclohexene
(c) 3-methyltoluene-4-ene
(d) none of these
13. The IUPAC name of $\text{H}-\text{C}\equiv\text{C}-\text{CH}_2\text{CH}=\text{CH}_2$ is:
- (a) 3-acetynyl-1-propene (b) 1-penten-4-yne
(c) acetylene-1-propene (d) none of these
14. The IUPAC name of $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{CH}=\text{CH}_2$ is:
- (a) 4-hydroxypentene-1 (b) ethenylisopropanol
(c) 4-penten-2-ol (d) 2-hydroxy-4-pentene
15. The IUPAC name of  is:



is:

- (a) 4-ethyl-3-methyl-*trans*-3-heptene
 (b) 4-ethyl-3-methyl-*cis*-3-heptene
 (c) 5-ethyl-6-methyl-*trans*-5-heptene
 (d) 5-ethyl-6-methyl-*cis*-5-heptene
16. 1, 2-dimethylcyclopropane exhibits
 (a) geometrical isomerism (b) position isomerism
 (c) optical isomerism (d) nuclear isomerism
17. How many structural isomers can compounds with the molecular formula C_4H_8 have?
 (a) One (b) Two
 (c) Three (d) Four
18. How many structural isomers can heptane (C_7H_{16}) have?
 (a) Five (b) Six
 (c) Eight (d) Nine
19. Which of the following can have functional-group isomerism?
 (a) $\text{CH}_3\text{OC}_2\text{H}_5$ (b) $\text{CH}_3\text{CH}_2\text{NH}_2$
 (c) $\text{CH}_3\text{CH}_2\text{CH}=\text{CH}_2$ (d) none of these
20. How many stereoisomers of cyclopropane 1, 2-dicarboxylic acid are possible?
 (a) One (b) Two
 (c) Three (d) Four
21. Which of the following statements is true about a homologous series?
 (a) Adjacent members of a group differ by a mass of 14.
 (b) Adjacent members of a group differ by one $-\text{CH}_2$ group.
 (c) Members of a homologous series can be prepared by the same general methods.
 (d) Members of a homologous series have the same physical and chemical properties.
22. The large number of organic compounds is due to
 (a) the valency of carbon
 (b) the small size of carbon
 (c) a special property of carbon known as catenation
 (d) none of these
23. How many isomers are possible for the alkyl group C_4H_9 -?
 (a) Two (b) Three
 (c) Four (d) Five
24. Which of the following compounds will have only primary and tertiary carbon?
 (a) Pentane (b) 2-Methylbutane
 (c) 2,3-Dimethylbutane (d) 2-Bromo-2-methylpropane
25. Which of the following compounds will have only primary and secondary carbon?
 (a) Propane (b) 2,2,3-Trimethylpentane
 (c) 2-Methylpropane (d) *n*-Propylbromide
26. Which of the following compounds has an isopropyl group?
 (a) 2-Methylpentane
 (b) 2,2-Dimethylpentane
 (c) 2,2,3,3-Tetramethylpentane
 (d) 2,2,3-Trimethylpentane
27. The general molecular formula of an alkyne is:
 (a) $\text{C}_n\text{H}_{2n+2}$ (b) C_nH_{2n}
 (c) $\text{C}_n\text{H}_{2n-2}$ (d) $\text{C}_n\text{H}_{2n+1}\text{OH}$
28. The IUPAC name of $\begin{array}{c} \text{H} \quad \text{H} \quad \text{Cl} \\ | \quad | \quad | \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{Cl} \\ | \quad | \quad | \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$ is:
 (a) 1,2-dichloropropane (b) 3,3-dichloropropane
 (c) 1,1-dichloropropane (d) dichloropropane
29. The IUPAC name of $(\text{CH}_3)_2\text{CHCH}(\text{CH}_3)_2$ is
 (a) 1,1,2,2-tetramethylethane
 (b) 1,2-di-isopropylethane
 (c) 2,3-dimethylbutane
 (d) 2,3,3-trimethylbutane
30. The IUPAC name of $\text{CH}_3\text{OCH}_2\text{CH}_2\text{CH}_3$ is:
 (a) propoxymethane (b) methoxypropane
 (c) methylpropyl ether (d) propylmethyl ether
31. The IUPAC name of $\text{Cl}-\text{CH}_2-\underset{\text{Cl}}{\text{CH}}-\text{CH}_2\text{Cl}$ is:
 (a) 1,2,3-trichloropropane
 (b) 1,2-dichloropropyl chloride
 (c) 1,1-dichloroisopropyl chloride
 (d) propane trichloride
32. The IUPAC name of CH_3CHO is:
 (a) acetaldehyde (b) formyl methane
 (c) ethanal (d) methylaldehyde
33. The IUPAC name for $\text{CH}_3\text{CH}_2\text{COOH}$ is
 (a) ethane carboxylic acid (b) ethanoic acid
 (c) ethylformic acid (d) propanoic acid
34. The IUPAC name of $\text{CH}_3\text{CH}_2\underset{\text{CH}_3}{\text{CH}}\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ is:
 (a) 5-methylheptane
 (b) 3-methylheptane
 (c) 1-methyl-1-ethylpentane
 (d) 2-ethylhexane
35. The IUPAC name of $\text{CH}_3\text{COCH}_2\text{CH}_2\text{CH}_3$ is:
 (a) 2-pentanone (b) 4-pentanone
 (c) methylpropylketone (d) ethylacetone
36. The IUPAC name of CCl_3CHO is
 (a) 1, 1,1-trichloroethanal (b) 2,2,2-trichloroethanal
 (c) trichloroacetaldehyde (d) chloral
37. The IUPAC name of $\text{CH}_3-\underset{\text{CH}_3}{\text{CH}}-\text{CH}=\text{CH}-\text{CH}_3$ is:
 (a) 2-methylpentane (b) 4-methylpentene-2
 (c) 2-hexene (d) 2,4-dimethylbutene
38. The IUPAC name of $\text{CH}_2=\text{CH}-\text{CH}(\text{CH}_3)_2$ is
 (a) 1-isopropylethylene (b) 1,1-dimethyl-2-propene
 (c) 3-methyl-1-butene (d) 2-vinylpropane
39. The IUPAC name of $\text{CH}_3\text{CH}_2\underset{\text{CH}_3}{\text{C}}=\text{CH}_2$ is:
 (a) 3-methylbutene-1 (b) 2-methylbutene-1
 (c) vinylmethylethane (d) propylethene-1
40. The IUPAC name of $\text{CH}_3\text{CH}_2\underset{\text{CH}_2\text{CH}_3}{\text{C}}=\text{CH}-\text{CH}_3$ is:
 (a) 2-ethyl-2-pentene (b) 4-ethyl-2-pentene
 (c) 3-methyl-3-hexene (d) 3-methyl-2-pentene
41. The IUPAC name of $(\text{CH}_3)_3\text{C}-\text{CH}=\text{CH}_2$ is
 (a) 1, 1-dimethyl-3-butene
 (b) 3,3-dimethyl-1-butene
 (c) 3,3,3-trimethyl-1-propene
 (d) 1,1,1-trimethyl-2-propene
42. The IUPAC name of the compound $\begin{array}{c} \text{CH}_3 \\ | \\ \text{H}_2\text{C}=\text{C}-\text{C}\equiv\text{C}-\text{CH}_3 \end{array}$ is
 (a) 2-methylpent-1-ene-3-yne
 (b) 4-methylpent-4-ene-2-yne
 (c) 2-methylpent-2-ene-3-yne
 (d) 2-methylpent-3-yne-2-ene

43. The IUPAC name of $\text{C}_2\text{H}_5-\text{C}(\text{H}_2\text{C})=\text{CH}-\text{CH}_3$ is
- (a) 3-methyl-2-ethylbutene-1
 (b) 3-ethyl-3-methylbutene-1
 (c) 2-ethyl-3-methylbutene-1
 (d) ethylisopropylethene
44. The IUPAC name of $\text{CH}_3-\text{CH}(\text{CH}_2\text{CH}_3)-\text{CHO}$ is:
- (a) 2-methylbutanal
 (b) butan-2-aldehyde
 (c) 2-ethylpropanal
 (d) 3-methylisobutyraldehyde
45. The IUPAC name of $\text{CH}_3-\text{CH}(\text{CH}_3)-\text{CH}_2-\text{CH}_2-\text{OH}$ is:
- (a) pentanol
 (b) 1-pentanol
 (c) 2-methyl-4-butanol
 (d) 3-methyl-1-butanol
46. The IUPAC name of $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_2\text{CH}_3)\text{CH}_2\text{OH}$ is:
- (a) 2-methyl-1-pentanol
 (b) 2-ethylbutanol-1
 (c) 2-ethylpentanol-1
 (d) 3-ethylbutanol-1
47. The IUPAC name for $\text{CH}_3\text{CHOHCH}_2-\text{C}(\text{CH}_3)_2-\text{OH}$ is:
- (a) 2-methyl-2, 4-pentanediol
 (b) 1, 1-dimethyl-1, 3-butanediol
 (c) 1, 3,3-trimethyl-1, 3-propanediol
 (d) 4-methyl-2, 4-pentanediol
48. The IUPAC name for $\text{CH}_3-\text{CH}(\text{CH}_3)-\text{CH}=\text{CH}-\text{CH}_2-\text{C}(=\text{O})-\text{OH}$ is:
- (a) 5-carboxy-2-methylpentene
 (b) 4-isopropyl-3-butenic acid
 (c) 5-methyl-4-hexenoic acid
 (d) none of these
49. The structure of 4-methylpentene-2 is
- (a) $(\text{CH}_3)_2\text{CH}-\text{CH}=\text{CH}-\text{CH}_3$
 (b) $(\text{CH}_3)_2\text{CH}-\text{CH}_2\text{CH}=\text{CH}_2$
 (c) $(\text{CH}_3)_2\text{CH}-\text{CH}_2\text{CH}=\text{CH}-\text{CH}_3$
 (d) $(\text{CH}_3)_2\text{C}=\text{CHCH}_2\text{CH}_3$
50. 2-methyl-2-butene is represented as
- (a) $\text{CH}_3-\text{C}(\text{CH}_3)=\text{CHCH}_3$
 (b) $\text{CH}_3-\text{CH}_2-\text{C}(\text{CH}_3)=\text{CH}_2$
 (c) $\text{CH}_3-\text{CH}(\text{CH}_3)-\text{CH}=\text{CH}_2$
 (d) $\text{CH}_3-\text{C}(\text{CH}_2)=\text{CH}_2-\text{CH}_3$
51. The IUPAC name of $\text{CH}_3-\text{C}(\text{CH}_3)_2-\text{Br}$ is:
- (a) tertiary butylbromide
 (b) isobutylbromide
 (c) 2-bromo-2-methylpropane
 (d) 2-methyl-2-propylbromide
52. The IUPAC name of $\text{CH}_3-\text{CH}=\text{CHCH}_2\text{Br}$ is
- (a) 1-bromo-3-butene
 (b) 1-bromo-2-butene
 (c) 2-butene-1-bromide
 (d) 4-bromo-2-butene
53. The IUPAC name of $(\text{CH}_3)_3\text{C}-\text{OH}$ is
- (a) tert. butylalcohol
 (b) 2-methyl-2-propanol
 (c) 2-methyl-1-butanol
 (d) 2-propanol
54. The IUPAC name of $\text{CH}_3\text{COCH}_2\text{CH}_2\text{CH}_3$ is
- (a) methyl-*n*-propylketone
 (b) 2-pentanone
 (c) 3-pentanone
 (d) *n*-propylmethylketone
55. The IUPAC name of $\text{CH}_3-\text{C}(\text{CH}_3)_2-\text{C}(\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3)_2-\text{CH}_3$ is:
- (a) 3-ethyl-2,2,3-trimethylheptane
 (b) 2,2,3-trimethyl-3-*n*-butylpentane
 (c) 3-methyl-3-isopropylheptane
 (d) 2,2-dimethyl-3-ethyl-3-*n*-butylbutane
56. The IUPAC name of $\text{CH}_3-\text{CH}(\text{CH}_2\text{CH}_3)-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{CH}_2\text{CH}_3$ is:
- (a) 2-ethyl-4-methylhexane
 (b) 3, 5-dimethylheptane
 (c) 5-ethyl-3-methylhexane
 (d) 2, 4-diethylpentane
57. The IUPAC name of $\text{CH}_3-\text{CH}(\text{OH})-\text{CH}(\text{CH}_3)-\text{C}(\text{CH}_3)_2-\text{OH}$ is
- (a) 1,1,2-trimethyl-1,3-butanediol
 (b) 1,2-dimethyl-2,4-pentanediol
 (c) 2,3-dimethyl-2,4-pentanediol
 (d) 1,2,3,4-tetramethyl-1,3-propanediol
58. The IUPAC name of $\text{CH}_3\text{C}\equiv\text{C}-\text{CH}(\text{CH}_3)-\text{CH}_3$ is:
- (a) 4-methyl-2-pentyne
 (b) methylisopropylacetylene
 (c) 4,4-dimethyl-2-butyne
 (d) 2-methyl-4-pentyne
59. The structure of 4-methyl-2-penten-1-ol is
- (a) $(\text{CH}_3)_2\text{CHCH}_2=\text{CHCH}_2\text{OH}$
 (b) $\text{CH}_3\text{CHOH}-\text{CH}=\text{C}(\text{CH}_3)_2$
 (c) $(\text{CH}_3)_2\text{C}=\text{CHCH}_2\text{CH}_2\text{OH}$
 (d) $\text{CH}_3\text{CH}_2\text{CH}=\text{CHCH}_2\text{OH}$
60. Which of the following compounds are named correctly?
- (a) $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\text{CH}_2\text{CHO}$ (5-methyl-1-hexanal)
 (b) $(\text{CH}_3)_2\text{CHCH}_2\text{C}\equiv\text{C}-\text{COOH}$ (5-methyl-2-hexynoic acid)
 (c) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)\text{COOH}$ (2-methylhexanoic acid)
 (d) $\text{CH}_3\text{CH}_2\text{CH}=\text{CH}-\text{COCH}_3$ (3-hexen-5-one)
61. The IUPAC name of $(\text{CH}_3)_3\text{C}-\text{CH}_2\text{CH}=\text{CH}_2$ is:
- (a) 2,2-dimethylpent-4-ene
 (b) 2,2-dimethylhex-4-ene
 (c) 4,4-dimethylpent-1-ene
 (d) hex-1-ene
62. In which of the following are all carbon atoms sp²

- hybridized?
- (a) $\text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_3$ (b) $\text{CH}_3 - \text{C} \equiv \text{C} - \text{CH}_3$
 (c) $\text{HC} \equiv \text{C} - \text{C} \equiv \text{CH}$ (d) $\text{CH}_3\text{CH}_2 - \text{C} \equiv \text{CH}$
63. The hybridization of carbon atoms in the C - C single bond of $\text{HC} \equiv \text{C} - \text{CH} = \text{CH}_2$ is:
 (a) $\text{sp}^3 - \text{sp}^3$ (b) $\text{sp}^2 - \text{sp}^3$
 (c) $\text{sp} - \text{sp}^2$ (d) $\text{sp}^3 - \text{sp}$
64. Which of the following compounds have only one type of hybrid carbon?
 (a) $\text{CH}_2 = \text{CH} - \text{CH} = \text{CH}_2$ (b) $\text{HC} \equiv \text{C} - \text{C} \equiv \text{CH}$
 (c) $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$ (d) $\text{CH}_3 - \text{C} \equiv \text{C} - \text{CH}_3$
65. In the reaction $\text{CH}_3\text{CONH}_2 \xrightarrow[\Delta]{\text{P}_2\text{O}_5} \text{CH}_3\text{CN}$, the hybridization state of the carbon atom changes from
 (a) sp^2 to sp (b) sp^3 to sp
 (c) sp^3 to sp^2 (d) sp^2 to sp^3
66. Which of the following have zero dipole moment?
 (a) H_2 (b) HF
 (c) CH_4 (d) CHCl_3
67. Arrange the following resonating structures of vinyl chloride in order of decreasing stability.
 $\text{H}_2\text{C} = \text{CH} - \text{Cl} \longleftrightarrow \text{H}_2\text{C}^- - \text{CH} = \overset{+}{\text{C}}\text{Cl} \longleftrightarrow \text{H}_2\overset{+}{\text{C}} - \text{CH} = \overset{-}{\text{C}}\text{Cl}$
 (a) I > II > III (b) III > II > I
 (c) II > I > III (d) I > II = III
68. Arrange the following resonating structures of formic acid in order of decreasing stability.
 $\text{H} - \overset{\text{O}}{\parallel}{\text{C}} - \text{OH} \leftrightarrow \text{H} - \overset{\ominus}{\text{C}} = \overset{+}{\text{O}}\text{H} \leftrightarrow \text{H} - \overset{\ominus}{\text{C}} - \overset{+}{\text{O}}\text{H} \leftrightarrow \text{H} - \overset{\ominus}{\text{C}} - \overset{+}{\text{O}}\text{H}$
 (a) II > I > III > IV (b) I > III > II > IV
 (c) III > II > IV > I (d) IV > III > I > II
69. Which of the following molecules show resonance?
 (a) CO (b) CO_2
 (c) NO (d) O_3
70. Arrange the following free radicals in order of stability.
 I $(\text{CH}_3)_3\dot{\text{C}}$ II $(\text{CH}_3)_2\dot{\text{C}}\text{H}$
 III $\text{CH}_3\dot{\text{C}}\text{H}_2$ IV $\dot{\text{C}}\text{H}_3$
 (a) I > II > III > IV (b) IV > III > II > I
 (c) II > III > I > IV (d) IV > II > III > I
71. Arrange the following free radicals in order of stability
 I Benzyl II allyl
 III methyl IV vinyl
 (a) IV > III > II > I (b) I > II > III > IV
 (c) II > IV > III > I (d) III > II > I > IV
72. Arrange the following carbonium ions in order of decreasing stability.
 (I) $(\text{CH}_3)_3\overset{+}{\text{C}}$ (II) $(\text{CH}_3)_2\overset{+}{\text{C}}\text{H}$ (III) $\text{CH}_3\overset{+}{\text{C}}\text{H}_2$ (IV) $\text{H}_3\overset{+}{\text{C}}$
 (a) II > III > I > IV (b) IV > III > II > I
 (c) I > II > III > IV (d) I > II > III = IV
73. Which of the following compounds will produce the most stable carbonium ion?
 (a) $\text{CH}_3 - \underset{\text{CH}_3}{\text{C}} - \text{CH}_2\text{OH}$ (b) $\text{CH}_3 - \underset{\text{CH}_3}{\overset{\text{CH}_3}{\text{C}}} - \text{OH}$
- (c) $\text{CH}_3 - \underset{\text{OH}}{\text{C}} - \text{CH}_2\text{CH}_3$ (d) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$
74. The bond that undergoes heterolytic cleavage most readily is
 (a) C—C (b) C—O
 (c) C—H (d) O—H
75. Hydrogen bonding is maximum in
 (a) triethylamine (b) ethyl chloride
 (c) ethyl alcohol (d) diethyl ether
76. Which of the following compounds will exhibit cis-trans isomerism?
 (a) 2-Butene (b) 2-Butyne
 (c) 1-Butene (d) 2-Butanol
77. Which of the following compounds will exhibit geometrical isomerism?
 (a) $\text{H} \diagdown \text{C} = \text{C} \diagup \text{I}$ (b) $\text{H} \diagdown \text{C} = \text{C} \diagup \text{I}$
 $\text{H} \diagup \text{C} = \text{C} \diagdown \text{Br}$ $\text{CH}_3 \diagdown \text{C} = \text{C} \diagup \text{Br}$
 (c) $\text{H}_3\text{C} \diagdown \text{C} = \text{C} \diagup \text{Br}$ (d) $\text{H} \diagdown \text{C} = \text{C} \diagup \text{Br}$
 $\text{H}_3\text{C} \diagup \text{C} = \text{C} \diagdown \text{Cl}$ $\text{H}_3\text{C} \diagdown \text{C} = \text{C} \diagup \text{Br}$
78. Which of the following compounds exhibit optical isomerism?
 (a) $\text{C}_2\text{H}_5\text{OC}_2\text{H}_5$ (b) $\text{CH}_3\text{OC}_3\text{H}_7$
 (c) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ (d) $\text{CH}_3\text{CHOHCH}_2\text{CH}_3$
79. The IUPAC name of this compound is
 $\text{CH}_3\text{CH}_2\text{CH}_2\underset{\text{CH}_3}{\text{CH}} - \text{CH}_2 - \underset{\text{CHCH}_3}{\text{CH}} - \text{CH}_2 - \overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}} - \text{CH}_3$
 (a) 2,2,6-trimethyl-4-(1-methylpropyl) nonane
 (b) 4,8,8-trimethyl-6-(1-methylpropyl) nonane
 (c) 3,6-dimethyl-4-(methylene tertiary butyl)nonane
 (d) 6,6-dimethyl-2-propyl-4-(1-methylpropyl) heptane
80. $\text{CH}_2 = \text{CH} - \underset{\text{CH}_2\text{CH}_3}{\text{CH}} - \overset{\text{Cl}}{\text{C}} = \text{CH}_2$
 The IUPAC name of this compound is:
 (a) 3-ethyl-4-chloro-1, 4-pentadiene
 (b) 2-chloro-3-ethyl-1, 4-pentadiene
 (c) 4-chloroethenyl-1-pentene
 (d) 3-ethenyl-4-chloro-4-pentene
81. $\text{CH}_3 - \underset{\text{OCH}_3}{\text{CH}} - \overset{\text{O}}{\parallel}{\text{C}} - \underset{\text{CH}_3}{\text{CH}} - \text{OCH}_2\text{CH}_3$
 The IUPAC name of this compound is:
 (a) 2-ethoxy-4-methoxypentan-3-one
 (b) 2-methoxy-4-ethoxy-pentan-3-one
 (c) 2-ethoxy-4-methoxy-pentan-3-one
 (d) none of these
82. The IUPAC name of $\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \underset{\text{CH}_3}{\text{CH}} - \text{CH}_2 - \text{CHO}$ is
 (a) 2,3-dimethylpentanal (b) 3,4-dimethylpentanal
 (c) 3,4,4-trimethylbutanal (d) 3-isopropylbutanal

83. The IUPAC name of $\text{CH}_3\text{—CH—CH}_2\text{—C(CH}_3)_2$ is:

- $\begin{array}{c} \text{OH} \quad \quad \quad \text{OH} \\ | \quad \quad \quad | \\ \text{CH}_3\text{—CH—CH}_2\text{—C(CH}_3)_2 \end{array}$
- (a) 2-methyl-2, 4-dihydroxypropane
 (b) 2, 2-dimethyl-4-hydroxybutanol
 (c) 2-methyl-2, 4-pentanediol
 (d) 2-hydroxy-4, 4-dimethylbutanol-4

 84. The IUPAC name of $\text{BrCH}_2\text{—CH—CO—CH}_2\text{—CH}_2\text{CH}_3$

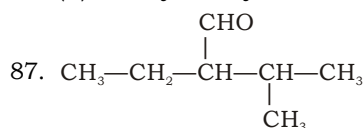
- $\begin{array}{c} \text{CONH}_2 \\ | \\ \text{BrCH}_2\text{—CH—CO—CH}_2\text{—CH}_2\text{CH}_3 \end{array}$
- is:
 (a) 2-bromomethyl-3-oxohexanamide
 (b) 1-bromo-2-amido-3-oxohexane
 (c) 1-bromo-2-amido-*n*-propylketone
 (d) 3-bromo-2-propionyl-propanamide

 85. The IUPAC name of $\text{CH}_3\text{—CH}_2\text{—CH—COOC}_2\text{H}_5$ is:

- $\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3\text{—CH}_2\text{—CH—COOC}_2\text{H}_5 \end{array}$
- (a) 2-ethyl-ethylacetate
 (b) ethyl 3-methylbutanoate
 (c) ethyl 2-methylbutanoate
 (d) 2-methylbutanoic acid ethylester

 86. The IUPAC name of $\text{CH}_3\text{CH}_2\text{—N—CH}_2\text{CH}_3$ is

- $\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3\text{CH}_2\text{—N—CH}_2\text{CH}_3 \end{array}$
- (a) *N*-methyl-*N*-ethylethylamine
 (b) diethylmethylamine
 (c) *N*-ethyl-*N*-methylaminoethane
 (d) methyldiethylamine



The IUPAC name of this compound is

- (a) 2-isopropylbutanal
 (b) 2-ethyl-3-methylbutanal
 (c) 3-ethyl-2-methylbutanal
 (d) 2-methylpentane-3-aldehyde

 88. The IUPAC name of $\text{C}_6\text{H}_5\text{—CH—CH}_2\text{—CCl}_3$ is:

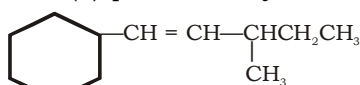
- $\begin{array}{c} \text{C}_6\text{H}_5 \\ | \\ \text{C}_6\text{H}_5\text{—CH—CH}_2\text{—CCl}_3 \end{array}$
- (a) 1,1,1-trichloro-3, 3-diphenylpropane
 (b) 1,1-diphenyl-3, 3, 3-trichloropropane
 (c) (a) as well as (b)
 (d) none of these

 89. The IUPAC name of $\text{C}_6\text{H}_5\text{CH}=\text{CH—COOH}$ is:

- (a) cinnamic acid
 (b) 1-phenyl-2-carboxyethene
 (c) 3-phenylprop-2-enoic acid
 (d) dihydro-3-phenylpropionic acid

 90. The IUPAC name of $\text{HC}\equiv\text{CCH}_2\text{CH}=\text{CH}_2$ is:

- (a) 1-propyn-ethene (b) propeneacetylene
 (c) pent-4-yne-1-ene (d) pent-1-en-4-yne

 91. The IUPAC name of  is:

- (a) 1-cyclohexyl-3-methyl-1-pentene
 (b) 3-methyl-5-cyclohexyl-pent-1-ene
 (c) 1-cyclohexyl-3-ethyl-but-1-ene
 (d) 1-cyclohexyl-3, 4-dimethyl-but-1-ene

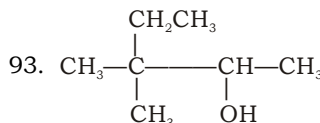
 92. The -I effect of $-\text{NO}_2$, $-\text{CN}$, $-\text{COOH}$, $-\text{Cl}$ decreases in the order

- (a) $-\text{NO}_2 > -\text{CN} > -\text{COOH} > -\text{Cl}$

(b) $-\text{Cl} > -\text{COOH} > -\text{CN} > -\text{NO}_2$

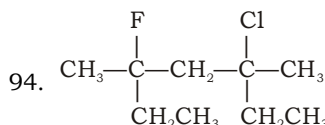
(c) $-\text{CN} > -\text{NO}_2 > -\text{Cl} > -\text{COOH}$

(d) $-\text{COOH} > -\text{CN} > -\text{NO}_2 > -\text{Cl}$



The IUPAC name of this compound is:

- (a) 3, 3-dimethyl-2-pentanol
 (b) 3-methyl-3-ethyl-2-butanol
 (c) 3,3-dimethyl-3-ethyl-isopropanol
 (d) 3,3-dimethyl-3-ethyl-2-hydroxypropane



The IUPAC name of this compound is:

- (a) 2-fluoro-4-chloro-2, 4-diethylpentane
 (b) 3-fluoro-5-chloro-3-methyl-5-ethylhexane
 (c) 3-chloro-5-fluoro-3, 5-dimethylheptane
 (d) 3, 5-dimethyl-5-fluoro-3-chloroheptane

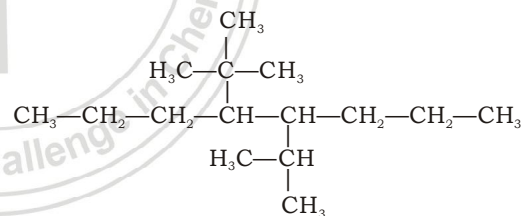
 95. The +I effect of $(\text{CH}_3)_3\text{C(I)}$, $(\text{CH}_3)_2\text{CN(II)}$, $\text{CH}_3\text{C—H}_2(\text{III})$, $\text{CH}_3(\text{IV})$ decreases in the order

- (a) $\text{I} > \text{II} > \text{III} > \text{IV}$ (b) $\text{IV} > \text{III} > \text{II} > \text{I}$
 (c) $\text{II} > \text{I} > \text{IV} > \text{III}$ (d) $\text{I} > \text{II} > \text{IV} > \text{III}$

96. The inductive effect of the alkyl groups on a saturated carbon chain follows the order

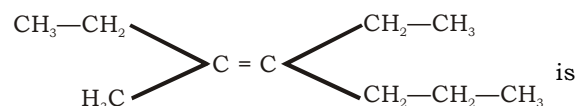
- (a) $(\text{CH}_3)_3\text{C—} > (\text{CH}_3)_2\text{CH—} > \text{CH}_3\text{—CH}_2\text{—} > \text{CH}_3\text{—}$
 (b) $\text{CH}_3\text{—} > \text{CH}_3\text{—CH}_2\text{—} > (\text{CH}_3)_2\text{CH—} > (\text{CH}_3)_3\text{C—}$
 (c) $\text{CH}_3\text{CH}_2\text{—} > \text{CH}_3\text{—} > (\text{CH}_3)_3\text{C—} > (\text{CH}_3)_2\text{CH—}$
 (d) $(\text{CH}_3)_2\text{CH—} > (\text{CH}_3)_3\text{C—} > \text{CH}_3\text{—} > \text{CH}_3\text{CH}_2\text{—}$

97. Give the IUPAC name of



- (a) 4-isopropyl-5-tert. butyloctane
 (b) 4-tert. butyl-5-isopropyloctane
 (c) 2-methyl-3-propyl-4-tert. butylheptane
 (d) 2,2-dimethyl-3-propyl-4-isopropylheptane

98. The IUPAC name of

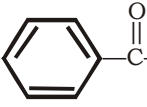


- (a) 4-ethyl-3-methyl-*trans*-3-heptene
 (b) 4-ethyl-5-methyl-*trans*-4-heptene
 (c) 3-methyl-4-propyl-3-hexene
 (d) 3-propyl-4-ethyl-3-pentene

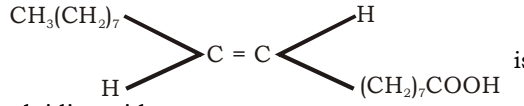
 99. The IUPAC name of $\text{ClCH}_2\text{CH}=\text{C}(\text{CH}_2\text{CH}_3)\text{—OH}$ is:

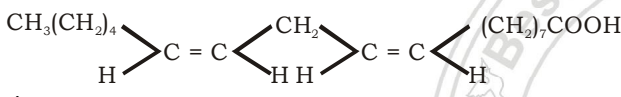
- (a) 5-chloro-3-penten-3-carbinol
 (b) 1-chloro-3-penten-3-carbinol
 (c) 4-chloro-2-ethyl-2-buten-1-ol
 (d) 1-chloro-3-ethyl-2-buten-4-ol

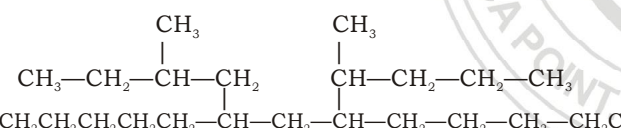
100. The IUPAC name of $\text{CH}_2 = \overset{\text{CH}_3}{\text{C}} - \text{CHO}$ is:
 (a) methacrolein (b) methacrylaldehyde
 (c) 2-methylpropenal (d) propenaldehyde

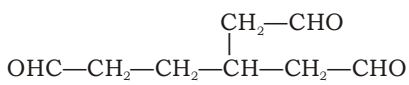
101. The IUPAC name of  is:
 (a) phenylethanone (b) methylphenylketone
 (c) acetophenone (d) phenylemethylketone

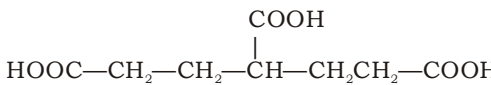
102. The IUPAC name of $\text{HC} \equiv \text{C} - \text{C} \equiv \text{C} - \overset{\text{C} \equiv \text{CH}}{\text{CH}} - \text{CH}_2 - \text{CH}_3$ is
 (a) 5-ethyl-1, 3, 6-heptatriyne
 (b) 3-ethyl-2, 4, 5-heptatriyne
 (c) 5-ethenyl-1, 3-heptatriyne
 (d) 3-ethenyl-4, 6-heptatriyne

103. The IUPAC name of  is
 (a) elaidic acid
 (b) trans-octadec-9-enoic acid
 (c) dihydrostearic acid
 (d) oleic acid

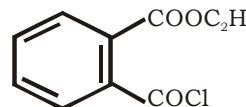
104. The IUPAC name of  is
 (a) cis-cis-9, 12-octadecadienoic acid
 (b) cis-trans-9, 12-octadecadienoic acid
 (c) 9, 10-octadecadienoic acid
 (d) 9, 14-octadecadienoic acid

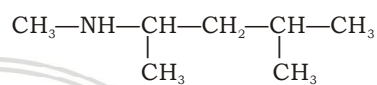
105. The IUPAC name of  is
 (a) 6-(1-methylbutyl)-8-(2-methylbutyl) tetradecane
 (b) 6-(2-methylbutyl)-8-(1-methylbutyl) tetradecane
 (c) 4-methyl-5-n-pentyl-7-(2-methylbutyl) tridecane
 (d) 3-methyl-5-n-hexyl-7-(1-methylbutyl) didecane

106. 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

107. The IUPAC name of  is

- (a) 4-carboxyheptane-1, 7-dioic acid
 (b) 3-propionyl-propane-1, 3-dioic acid
 (c) pentane-1, 3,5-tricarboxylic acid
 (d) 4-methionatebutane-1, 3-dioic acid

108. The IUPAC name of  is

- (a) 2-chlorocarbonyl ethylbenzoate
 (b) 2-carboxyethyl benzoyl chloride
 (c) ethyl-2-(chlorocarbonyl) benzoate
 (d) ethyl-1-(chlorocarbonyl) benzoate
109. The IUPAC name of $\text{C}_6\text{H}_5\text{CN}$ is
 (a) phenyl cyanide (b) phenylacetone nitrile
 (c) benzene cyanide (d) benzonitrile
110. The IUPAC name of $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{NH}_2$ is
 (a) β -phenylethylamine (b) 2-phenylaminoethane
 (c) 2-phenylethanamine (d) benzyl methylamine
111. The IUPAC name of  is

- (a) 2-(n-methylamino)-4-methylpentane
 (b) n, 4-dimethylpentan-2-amine
 (c) 2-(n-methylamino)-3-isopropylpropane
 (d) 2-(n-methylamino)-1,4,4-trimethylbutane
112. The trans-alkenes are formed by the reduction of alkynes with:
 (a) $\text{H}_2 - \text{Pd}/\text{C}, \text{BaSO}_4$ (b) NaBH_4
 (c) $\text{Na}/\text{liq. NH}_3$ (d) $\text{Sn} - \text{HCl}$

ANSWER

- | | | | | |
|---------------|----------|-----------|-----------|-----------|
| 1. (c) | 2. (a) | 3. (a) | 4. (c) | 5. (c) |
| 6. (d) | 7. (c) | 8. (d) | 9. (d) | 10. (c) |
| 11. (b) | 12. (a) | 13. (b) | 14. (c) | 15. (a) |
| 16. (a) | 17. (d) | 18. (d) | 19. (a) | 20. (c) |
| 21. (a,b,c) | 22. (c) | 23. (c) | 24. (c,d) | 25. (a,d) |
| 26. (a) | 27. (c) | 28. (c) | 29. (c) | 30. (b) |
| 31. (a) | 32. (c) | 33. (d) | 34. (b) | 35. (a) |
| 36. (b) | 37. (b) | 38. (c) | 39. (b) | 40. (c) |
| 41. (b) | 42. (a) | 43. (c) | 44. (a) | 45. (d) |
| 46. (b) | 47. (a) | 48. (d) | 49. (a) | 50. (a) |
| 51. (c) | 52. (b) | 53. (b) | 54. (b) | 55. (a) |
| 56. (b) | 57. (c) | 58. (a) | 59. (a) | |
| 60. (a,b,c) | 61. (c) | 62. (c) | 63. (c) | |
| 64. (a,b,c) | 65. (a) | 66. (a,c) | 67. (a) | 68. (b) |
| 69. (a,b,c,d) | 70. (a) | 71. (b) | 72. (c) | 73. (b) |
| 74. (d) | 75. (c) | 76. (a) | 77. (b) | 78. (d) |
| 79. (a) | 80. (b) | 81. (a) | 82. (b) | 83. (c) |
| 84. (a) | 85. (c) | 86. (a) | 87. (b) | 88. (a) |
| 89. (c) | 90. (d) | 91. (a) | 92. (a) | 93. (a) |
| 94. (c) | 95. (a) | 96. (a) | 97. (b) | 98. (a) |
| 99. (c) | 100. (c) | 101. (a) | 102. (a) | 103. (b) |
| 104. (a) | 105. (a) | 106. (d) | 107. (c) | 108. (c) |
| 109. (d) | 110. (c) | 111. (b) | 112. (c) | |