Exercise-1

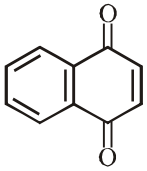
ONLY ONE OPTION CORRECT TYPE

Section (A) : Fundamental of Organic Chemistry

1. How many π and σ bond are present in ethylene :

(1) 5 σ , 1 π (2) 3 σ , 3 π (3) 2 σ ,4 π (4) 4 σ , 2 π

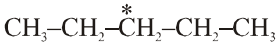
2. The number of σ and π bonds in the following molecule is respectively :



(1) 19 σ bonds, 6π bonds (2) 20 σ bonds, 5π bonds

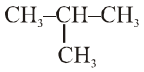
(3) 19 σ bonds, 5π bonds (4) 20 σ bonds, 6π bonds

3. What is the nature of marked carbon atom in the following compounds ?



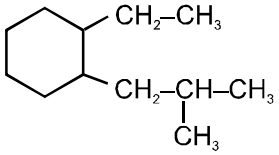
(1) 3° carbon (2) 2° carbon (3) 4° carbon (4) 1° carbon

4. Find the number of 1°, 2° & 3° hydrogen atoms in the following compounds :



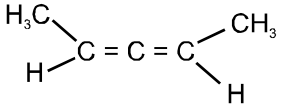
(1) 1° H $\rightarrow$ 9, 3° H $\rightarrow$ 1 (2) 1°H $\rightarrow$ 6, 2°H $\rightarrow$ 2 (3) 1°H $\rightarrow$ 6, 2°H $\rightarrow$ 4 (4) 1°H $\rightarrow$ 9, 2°H $\rightarrow$ 1

5. The number of primary, secondary and tertiary carbons in the following structure are respectively :



(1) 6,3,3 (2) 3,6,3 (3) 3,6,2 (4) 3,2,1

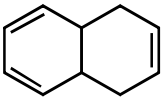
6. Which of the following compound has sp, sp^2 and sp^3 hybrid carbon atoms ?

(1) 

(2) $CH_3–CH=CH–CH=CH_2$

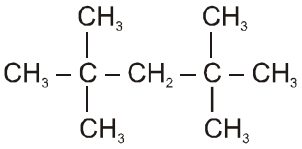
(3) $CH_3–C\equiv C–C\equiv CH$ (4) $CH_2=CH–C\equiv CH$

7. The number of sp^2–sp^2 hybrid σ bonds in the following compound is :



(1) 3 (2) 4 (3) 5 (4) 6

8. The number of 1º carbon of following compound is



(1) 5 (2) 6 (3) 8 (4) 4

9. Which type of hybridisation of each carbon have in the following compounds?

(1) $CH_3–Cl$ (2) $CH_3–\overset{\overset{O}{\|}}{C}–CH_3$ (3) $CH_3–C\equiv N$ (4) $H–\overset{\overset{O}{\|}}{C}–NH_2$

	(1)	**(2)**	**(3)**	**(4)**
(1)	sp^3	sp^3 & sp^2	sp^3 & sp^2	sp
(2)	sp^2	sp^3 & sp	sp^3 & sp	sp^2
(3)	sp^3	sp^3 & sp^2	sp^3 & sp	sp^2
(4)	sp^2	sp^3 & sp	sp^3 & sp^2	sp

10. Which is not the homologue of the propene.

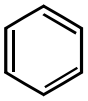
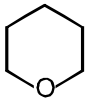
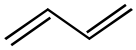
(1) Ethene (2) But-2-ene (3) Pent-1-ene (4) Cyclopropane

Section (B) : Classification of organic compounds

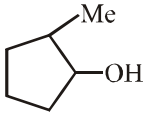
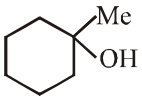
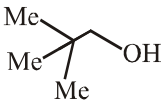
1. The alicyclic compound is :

(1) Cyclohexane (2) Benzene (3) Pyrrole (4) Hexane

2. Identify the compound which is homocyclic, aromatic, and unsaturated?

(1)  (2)  (3)  (4) 

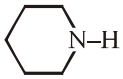
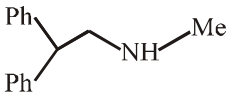
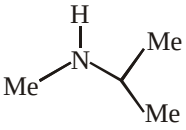
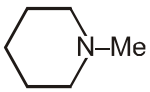
3. Secondary (2°) alcohol is :

(1)  (2)  (3)  (4) All of these

4. Which of the following is a primary alkyl halide ?

(1) $C_6H_5CHClCH_3$ (2) $CH_3CHClCH_2CH_3$ (3) $(CH_3)_2CHCH_2Cl$ (4) $(CH_3)_3CCl$.

5. Identify the 3° amines?

(1)  (2)  (3)  (4) 

6. The simplest tertiary amine has :-

(1) 2 carbon (2) 3 carbon (3) 4 carbon (4) 5 carbon

7. The higher homologue of dimethylamine ($CH_3–NH–CH_3$) has the structure :-

(1) $CH_3–\underset{\underset{CH_3}{|}}{N}–CH_3$ (2) $CH_3–CH_2–CH_2–NH_2$

(3) $CH_3–NH–CH_2–CH_3$ (4) $CH_3–\underset{\underset{NH_2}{|}}{N}–CH_3$

8. The minimum number of carbon atoms in an alkane having four primary carbon atoms are :-

(1) 4 (2) 8 (3) 5 (4) 6

9. A primary amine has amino group-(NH_2) attached to :-

(1) A primary carbon atom only (2) A secondary carbon atom only

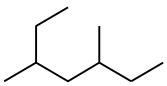
(3) A tertiary carbon atom only (4) A primary, secondary or tertiary carbon atom

Section (C) : IUPAC-Nomenclature of Alkane

1. The correct IUPAC name of the alkane  is:

(1) 2-Methyl propane (2) 2, 2-Dimethyl propane

(3) 2-Methyl butane (4) 2, 2-Dimethyl butane

2. The correct IUPAC name of the alkane  is :

(1) 2-Ethyl-4-methylhexane (2) 5-Ethyl-3-methylhexane

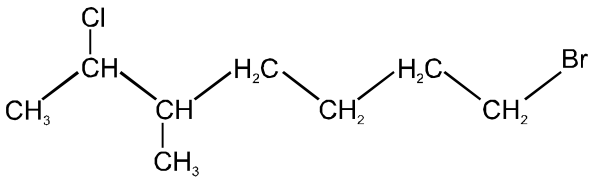
(3) 3,5-Dimethylheptane (4) 3,5-Dimethylhexane

3. IUPAC name of $(CH_3)_2CHCH(CH_3)_2$ is :

(1) 2,2-Dimethylbutane (2) 2,3-Dimethylbutane

(3) 2,4-Dimethylbutane (4) 1-Methylpentane

4. IUPAC name of following compound is :



(1) 2-Chloro-3-methyl-7-bromoheptane (2) 7-Bromo-2-chloro-7-methylheptane

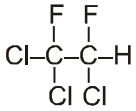
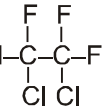
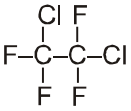
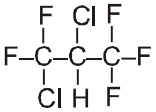
(3) 1-Bromo-5-methyl-6-chloroheptane (4) 1-Bromo-6-chloro-5-methyl heptane

5. IUPAC name of tert-butyl chloride is :

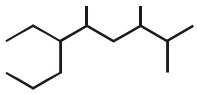
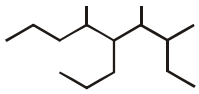
(1) 2–Chloro–2–methylbutane (2) Chlorobutane

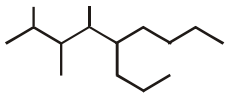
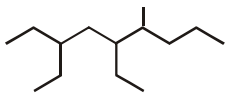
(3) 2–Chlorobutane (4) 2–Chloro–2–methylpropane

6. What is the correct chemical formula for 1,2–Dichloro tetrafluoroethane ?

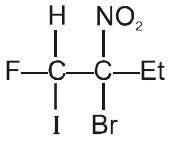
(1)  (2)  (3)  (4) 

7. The correct structure of 6-Ethyl-2,3,5-trimethylnonane is :

(1)  (2) 

(3)  (4) 

8. The correct IUPAC name of the following compound is :



(1) 1-Bromo-1-ethyl-2-fluoro-2-iodo-1-nitroethane.

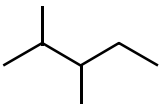
(2) 3-Bromo-4-fluoro-4-iodo-3-nitrobutane.

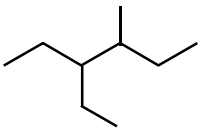
(3) 2-Bromo-1-fluoro-1-iodo-2-nitrobutane.

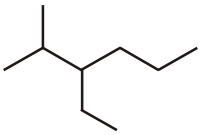
(4) 1-Fluoro-1-iodo-2-bromo-2-ethyl-2-nitroethane.

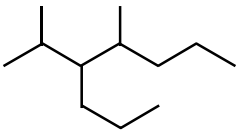
9. A student named a certain compound as 2, 3-Diethylbutane, its correct IUPAC name is
(1) 2, 3-Dimethylhexane (2) 3, 4-Dimethylhexane
(3) 2-Ethyl-3-methylpentane (4) 2-Ethylbutane

10. Which structure is incorrect as per the given name :

(1) 2,3-Dimethylpentane 

(2) 3-Ethyl-4-methylhexane 

(3) 3-Ethyl-2,2-dimethylhexane 

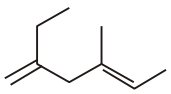
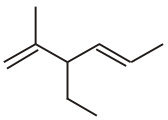
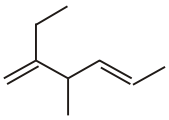
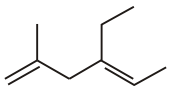
(4) 4-Methyl-5-(1-methylethyl)octane 

Section (D) : IUPAC-Nomenclature of Alkene & Alkyne

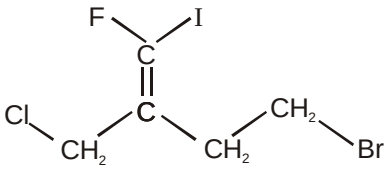
1. Select the structure with correct numbering in the chain :
(1) $\overset{5}{C}H_2 = \overset{4}{C}H - \overset{3}{C}H_2 - \overset{2}{C} \equiv \overset{1}{C}H$ (2) $\overset{1}{C}H_3 - \overset{2}{C}H = \overset{3}{C}H - \overset{4}{C}H_2 - \overset{5}{C} \equiv \overset{6}{C}H$
(3) $\overset{7}{C}H_2 = \overset{6}{C}H - \overset{5}{C}H = \overset{4}{C}H - \overset{3}{C}H_2 - \overset{2}{C}H = \overset{1}{C}H_2$ (4) $\overset{1}{C}H_2 = \overset{2}{C}H - \overset{3}{C}H = \overset{4}{C}H - \overset{5}{C}H_2 - \overset{6}{C} \equiv \overset{7}{C}H$

2. The correct IUPAC name of the compound $CH_2=CH-CH_2-\underset{\displaystyle C_2H_5}{\underset{|}{CH}}-CH_3$
(1) 4-Ethylpent-1-ene (2) 2-Ethylpent-4-ene (3) 4-Methylhex-1-ene (4) 3-Methylhex-1-ene

3. The correct structure of 2-Ethyl-3-methylhexa-1,4-diene is :

(1)  (2)  (3)  (4) 

4. The correct IUPAC name of the following compound is :



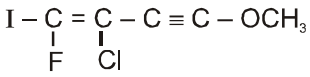
(1) 4-Bromo-1-chloro-2-fluoroiodomethylbutene

(2) 4-Bromo-2-chloromethyl-1-fluoro-1-iodobut-1-ene

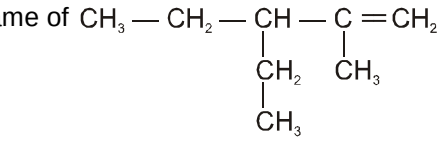
(3) 2-(2-Bromoethyl)-3-chloro-1-fluoro-1-iodoprop-1-ene

(4) 1-Bromo-3-chloromethyl-4-fluoro-4-iodobut-1-ene

5. The correct IUPAC name of the given compound is :

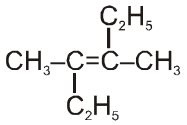


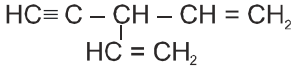
(1) 3–Chloro–1–fluoro–1–iodo–4–methoxybut–1–en–3–yne
(2) 4–Methoxy–2–chloro–1–fluoro–1–iodobutenyne
(3) 3–Chloro–4–fluoro–4–iodo–1–methoxybutenyne
(4) 2–Chloro–1–fluoro–1–iodo–4–methoxybutenyne

6. IUPAC name of  is :

(1) 2-Methyl-3-ethyl-1-pentene (2) 3-Ethyl-4-methyl-4-pentene
(3) 3-Ethyl-2-methyl-1-pentene (4) 3-Methyl-2-ethyl-1-pentene

7. Which IUPAC name is **incorrect** :

(1)  2,3–Diethylbutene

(2)  3-Ethynylpenta-1, 4-diene

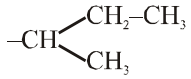
(3) $HC\equiv C-CH=CH_2$ Butenyne

(4) $CH_3–CH=CH–C\equiv CH$ Pent–3–en–1–yne

8. Which of the following name is wrong for $CH_2=CHCH_2Cl$?

(1) Allyl chloride (2) 1-Chloroprop-3-ene
(3) 3-Chloroprop-1-ene (4) 3-Chloropropylene

9. The common name of the following alkyl group is:



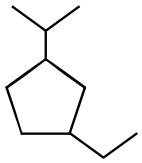
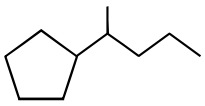
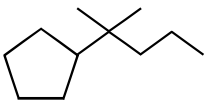
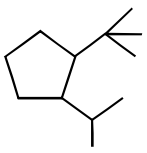
(1) isopropyl group (2) sec-butyl group (3) Tert-butyl group (4) Ethyl group

10. $CH_2 = CH –$ is called as :

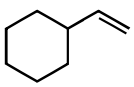
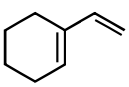
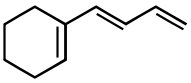
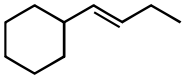
(1) Isoethyl (2) Ethenyl or vinyl (3) s-ethyl (4) Ethene

Section (E) : IUPAC-Nomenclature of Cyclic Compounds

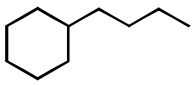
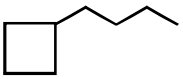
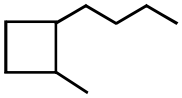
1. In which of the following side chain (acyclic chain) is the main chain ?

(1)  (2)  (3)  (4) 

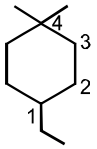
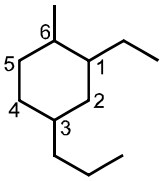
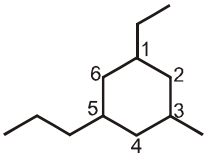
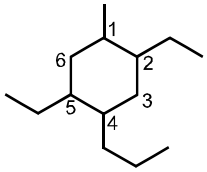
2. In which of the following cyclic chain is the main chain ?

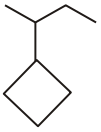
(1)  (2)  (3)  (4) 

3. Identify the compound in which acyclic part is parent chain ?

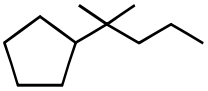
(1)  (2)  (3)  (4) 

4. In which of the following compound IUPAC numbering is correct ?

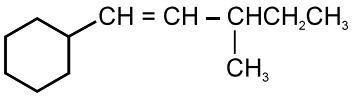
(1)  (2)  (3)  (4) 

5. IUPAC name for  is :

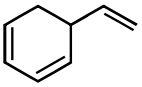
(1) (1-Methylpropyl)cyclobutane (2) 2-(n-butyl)cyclobutane
(3) 2-Cyclobutylbutane (4) 1-Cyclobutylbutane

6. The correct IUPAC name of  is :

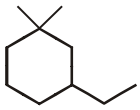
(1) 1-Cyclopentyl-1, 1-dimethylbutane (2) 2-Cyclopentyl-2-methylpentane
(3) 2-Methyl-2-cyclopropylpentane (4) 1, 1-Dimethyl-1-cyclopentylbutane

7. IUPAC name of the compound  is :

(1) 1-Cyclohexyl-3-methylpent-1-ene (2) 3-Methyl-5-cyclohexylpent-1-ene
(3) 1-Cyclohexyl-3-ethylbut-1-ene (4) 1-Cyclohexyl-3,4-dimethylbut-1-ene

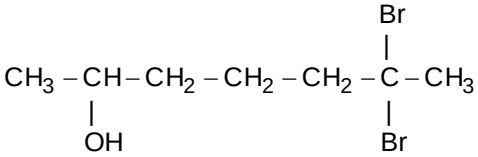
8. The correct IUPAC name of the compound  is :

(1) 1-Ethenylcyclohexa-2, 4-diene (2) 5-Ethenylcyclohexa-1, 3-diene
(3) 6-Ethenylcyclohexa-1, 3-diene (4) Cyclohexa-2, 4-dienylethene

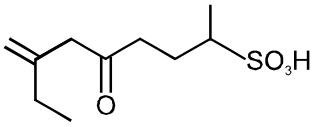
9.  has the IUPAC name-

(1) 1- Ethyl-3,3-dimethyl cyclohexane (2) 3- Ethyl-1,3-dimethyl cyclohexane
(3) 3- Ethyl-1,1-dimethyl cyclohexane (4) 3,3-Dimethyl -1-ethyl cyclohexane

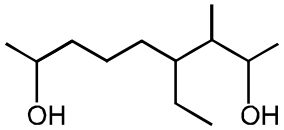
Section (F) : IUPAC - Nomenclature of Functional groups ($-SO_3H$, $-\overset{O}{\overset{\|}{C}}-$, $-OH$, $-NH_2$, $-OR$)

1. The IUPAC name of  is :

(1) 6, 6-Dibromoheptan-2-ol (2) 2, 2-Dibromoheptan-6-ol
(3) 6, 6-Dibromoheptan-2-al (4) None of these

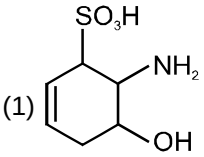
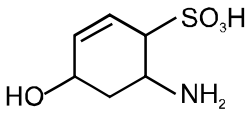
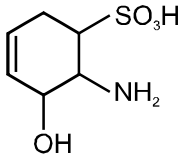
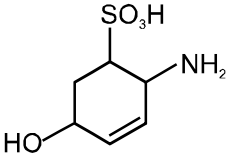
2. The correct IUPAC name of the compound  is :

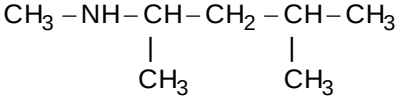
(1) 6-Ethyl-1-methyl-4-oxohept-6-ene-1-sulphonic acid
(2) 7-Ethyl-5-oxooct-7-ene-2-sulphonic acid
(3) 2-Ethyl-7-sulphooct-1-ene-4-one
(4)7-Methylene-5-oxononane-2-sulphonic acid

3. The correct IUPAC name of the compound  is :

(1) 4-Ethyl-3-methylnonane-2, 8- diol (2) 6-Ethyl-7-methylnonane-2, 8-diol
(3) 5-Ethyl-1, 6, 7-trimethylheptane-1, 7-diol (4) 4-Ethyl-2-methylnonane-2, 7-diol

4. The correct structure of 6-Amino-4-hydroxycyclohex-2-ene-1-sulphonic acid is :

(1) 
(2) 
(3) 
(4) 

5. IUPAC name of the compound  is :

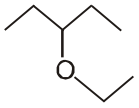
(1) 2-(N-methylamino)-4-methylpentane (2) N-Methyl-4-methylpentan-2-amine
(3) 2-(N-methylamino)-3-isopropylpropane (4) 2-(N-methylamino)-1, 4, 4-trimethylbutane

6. Which of the following represents neopentyl alcohol ?

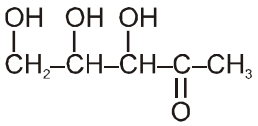
(1) $CH_3CH(CH_3)CH_2CH_2OH$ (2) $(CH_3)_3C.CH_2OH$
(3) $CH_3CH_2CH_2CH_2OH$ (4) $CH_3CH_2CH(OH)CH_2$

7. All the following IUPAC names are correct except :

(1) 1–Chloro–1–ethoxypropane (2) 1–Amino–1–ethoxypropane
(3) 1–Ethoxy–2–propanol (4) 1–Ethoxy–1–propanamine

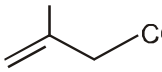
8. The correct IUPAC name of the compound  is :

(1) 2-Ethoxypentane (2) 3-Ethoxypentane (3) 3-Pentoxyethane (4) 3-Ethylpentan-3-ol

9. The correct IUPAC name of the compound  is :

(1) 2-Oxopentane-3,4,5-triol (2) 3,4,5-Trihydroxypentan-2-one
(3) 1,2,3-Trihydroxypentan-2-one (4) 1,2,3-Trihydroxypentan-4-one

Section (G) : IUPAC-Nomenclature of Functional groups (–COOH, –C(=O)–X, –CN, –CHO)

1. The IUPAC name of the compound  is :

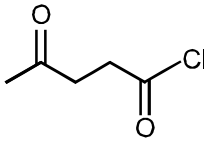
(1) 3-Methylbut-2-en-1-oic acid (2) 3-Methylbut-3-en-1-oic acid
(3) 2-Methylbut-1-en-4-oic acid (4) 3-Methylenebutan-1-oic acid

2. The IUPAC name of the $CH_3CH=CH-CH_2-\underset{\underset{NH_2}{|}}{CH}-CH_2COOH$ is :

(1) 3-Aminohept-5-enoic acid (2) 5-Aminohex-2-enecarboxylic acid
(3) 3-Aminohept-4-enoic acid (4) 5-Aminohept-2-enoic acid

3. The IUPAC name of the $CH_3-\underset{\underset{CHO}{|}}{CH}-CH_2-CH_2-OH$ is :

(1) 3-Formylbutan-1-ol (2) 2-Methylbutane-4-ol-1-al
(3) 4-Hydroxy-2-methylbutanal (4) 2-Methyl-4-hydroxybutanal

4. The correct IUPAC name of compound  is :

(1) 1-Chloropentane-1, 4-dione (2) 4-Chlorocarbonylbutan-2-one
(3) 4-Oxopentanoyl chloride (4) 3-Oxobutanecarbonyl chloride

5. The IUPAC name of $CH_3-\underset{\underset{OH}{|}}{CH}-CH_2-\underset{\underset{CH_3}{|}}{CH}-COOH$ is :-

(1) 1-Hydroxy-4-methylpentanoic acid (2) 1-Methyl-3-hydroxypentanoic acid
(3) 4-Hydroxy-2-methylpentanoic acid (4) 4-Carboxypentanol-2.

6. The IUPAC name for $CH_2=CHCN$ is :

(1) Vinyl cyanide (2) Cyanoethene (3) Acrylonitrile (4) Prop-2-enenitrile

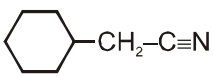
7. Which of the following compound is wrongly named ?

(1) $CH_3CH_2CH_2\underset{\underset{Cl}{|}}{CH}COOH$ 2–Chloropentanoic acid

(2) $CH_3C\equiv C\underset{\underset{CH_3}{|}}{CH}COOH$ 2–Methylpent-3-enoic acid

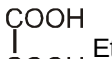
(3) $CH_3CH_2CH=CHCOCH_3$ Hex-3-en-2-one

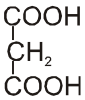
(4) $CH_3-\underset{\underset{CH_3}{|}}{CH}CH_2CH_2CHO$ 4-Methylpentanal

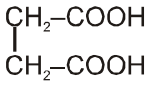
8. The IUPAC name of  is :

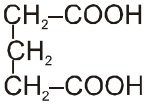
(1) Cyclohexanemethylcarbonitrile (2) 2-Cyclohexylethanenitrile
(3) 2-Cyclohexylethanecarbonitrile (4) Cyclohexaneethylnitrile

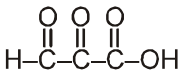
9. Which is the incorrect IUPAC name :

(1)  Ethanedioic acid

(2)  Propanedioic acid

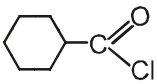
(3)  Butanedioic acid

(4)  Propane-1,3-dicarboxylic acid

10. The correct IUPAC name of the  is :

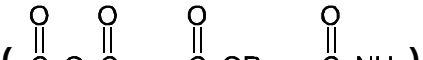
(1) 3-Aldo-2-oxopropanoic acid (2) 2,3-Dioxopropanoic acid

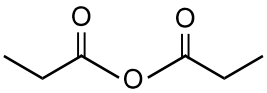
(3) 1-Hydroxy propane-1,2,3-trione (4) 2-Aldo-2-Keto methanoic acid

11. The IUPAC name for the compound  is :-

(1) Cyclohexanoyl chloride (2) Cyclohexanecarbonyl chloride

(3) 1-Chlorocyclohexanal (4) Chlorocyclohexyl methanal

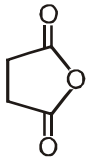
Section (H) : IUPAC-Nomenclature of Functional groups ()

1. The IUPAC name of the compound  is :

(1) Propanoic anhydride (2) Dipropanoic anhydride

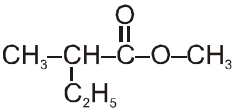
(3) Ethoxy propanoic acid (4) 1-Oxopropyl propanoate

2. The IUPAC name of the compound is :



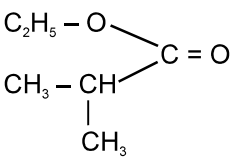
(1) Cyclobutanedioic anhydride (2) Butanedicarboxylic anhydride

(3) Cyclobutanedicarboxylic anhydride (4) Butanedioic anhydride

3. The correct IUPAC name of compound  is :

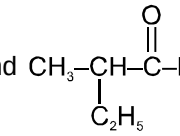
(1) Methyl 2-ethylpropanoate (2) Methyl butane-2-carboxylate

(3) Methyl 2-methylbutanoate (4) Methoxypentanone

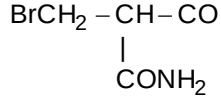
4. The IUPAC name of  is :

(1) Ethoxymethanone (2) Ethyl 2-methylpropanoate

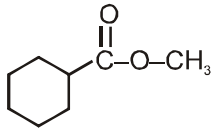
(3) Ethoxypropanone (4) 2-Methylethoxypropanone

5. The IUPAC name of the compound  is :

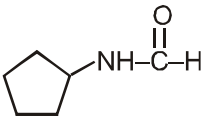
(1) N-Ethyl-2-ethylpropanamide (2) N-Ethyl-2-methylbutanamide
(3) N-Ethyl-2-methylpropanecarboxamide (4) N-Ethyl-2-ethylethanecarboxamide

6. IUPAC name of the compound  is :

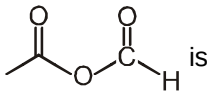
(1) 2-Bromomethyl-3-oxohexanamide (2) 1-Bromo-2-amido-3-oxohexane
(3) 1-Bromo-2-amido-n-propylketone (4) 3-Bromo-2-proponyl-propanamide

7. IUPAC name of the compound  is :

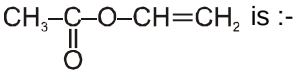
(1) Methyl cyclohexanecarboxylate (2) Methyl cyclohexanemethanoate
(3) Methyl cyclohexylcarboxylate (4) Methyl cyclohexanoate

8. IUPAC name of the compound  is :

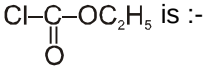
(1) N-Cyclopentylamide (2) N-Cyclopentylmethanamide
(3) Cyclopentanemethanamide (4) N-Aminocyclopentylmethanal

9. The correct IUPAC name of  is

(1) Butane-2, 4-dione (2) Formyl ethanoate
(3) Acetic anhydride (4) Ethanoic methanoic anhydride

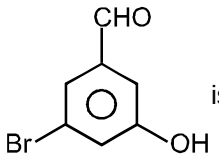
10. Common name of the given compound  is :-

(1) vinyl acetate (2) acryl acetate
(3) methyl acrylate (4) Vinyl ethanoate

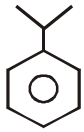
11. The IUPAC name of  is :-

(1) Ethoxy formyl chloride (2) Ethoxy methanoyl chloride
(3) Ethyl chloro methanoate (4) Ethoxy carbonyl chloride

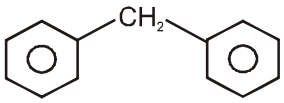
Section (I) : IUPAC-Nomenclature of Aromatic compounds

1. The IUPAC name of the compound  is :

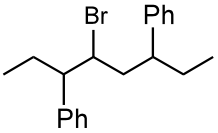
(1) 5-Bromo-3-hydroxybenzenecarbaldehyde (2) 3-Bromo-5-formylphenol
(3) 3-Bromo-5-hydroxybenzenecarbaldehyde (4) 1-Bromo-3-formyl-5-hydroxybenzene

2. Correct name of the  :

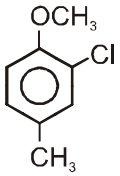
(1) Propylbenzene
(2) Isopropylbenzene
(3) Dimethylbenzene
(4) Ethylmethylbenzene

3. IUPAC name of the  :

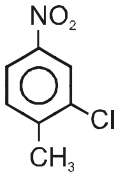
(1) Methyldibenzene
(2) Isophenyl methane
(3) Dimethylbenzene
(4) Diphenyl methane

4. Correct IUPAC name of the  :

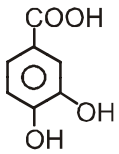
(1) Cyclohexylbenzene
(2) 4-Bromo-3, 6-diphenyloctane
(3) 1, 2-Dichloro-4-ethyl-5-nitrobenzene
(4) 4-Chloro-1-nitro-2-propylbenzene

5.  is named as -

(1) 4-Chloro-2-methyl anisole
(2) 2-Chloro-4-methyl anisole
(3) 3-Chloro-1-methyl anisole
(4) 1-Chloro-3-methyl anisole

6.  has the IUPAC name-

(1) 4-Methyl-5-Chloro-1-nitrobenzene
(2) 1-Methyl-4-nitro-6-Chloro benzene
(3) 2-Chloro-1-methyl-4-nitrobenzene
(4) 1-Chloro-2-methyl-5-nitrobenzene

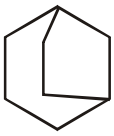
7. The IUPAC name of  is :-

(1) 3,4-Dihydroxybenzenecarboxylic acid
(2) 1,2-Dihydroxybenzoic acid
(3) 4-Carboxy-2-hydroxy phenol
(4) 4-Carboxybenzene-1,2-diol

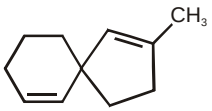
Section (J) : IUPAC-Nomenclature of Bicyclo and spiro compound

1. Correct IUPAC name of the  :

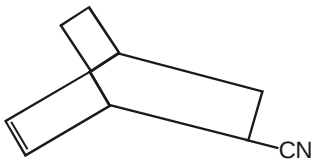
(1) Bicyclo [1.1.1] butane
(2) Bicyclo [0.1.1] butane
(3) Bicyclo [1.0.1] butane
(4) Bicyclo [1.1.0] butane

2. Correct IUPAC name of  is :

(1) Bicyclo [3.2.1] octane
(2) Bicyclo [3.3.3] octane
(3) Bicyclo [3.2.2] octane
(4) Bicyclo [1.2.3] octane

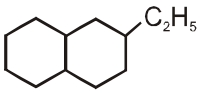
3. Correct IUPAC name of  is :

(1) 2-Methyl-spiro [4.5] deca-1,6 diene.
(2) 4-Methyl-spiro [4.5] deca-1,6 diene.
(3) 4-Methyl-spiro [4.5] deca-4,7 diene.
(4) 8-Methyl-spiro [4.5] deca-2,8 diene.

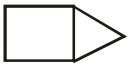
4. Correct IUPAC name of  is :

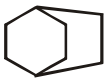
(1) Bicyclo [2.2.2] oct-5-ene-2- carbonitrile.
(2) Bicyclo [2.2.2] oct-2-ene-6-carbonitrile
(3) Bicyclo [2.2.2] oct-2-ene-4-carbonitrile
(4) Bicyclo [2.2.2] oct-4-ene-6-carbonitrile

5. Which name is **incorrect** matched for the respective structures :

(1)  3–Ethyl bicyclo [4.4.0] decane

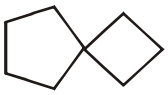
(2)  Bicyclo [3.3.1] nonane

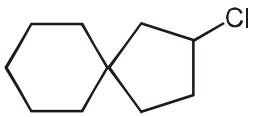
(3)  Bicyclo [2.1.0] pentane

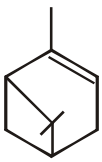
(4)  Bicyclo [4.2.2] octane

6. Which name is **incorrect** for the respective structures :

(1)  Bicyclo [1.1.1] pentane

(2)  Spiro [4.3] nonane

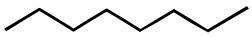
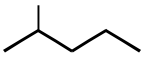
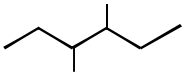
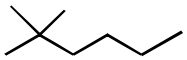
(3)  2-Chlorospiro [4.5] decane

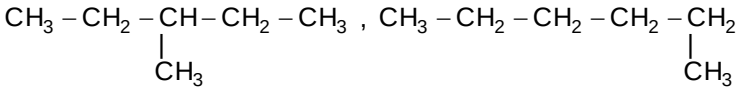
(4)  2,6,6-Trimethylbicyclo [3.1.1] hept-2-ene

Section (K) : Structural Isomerism

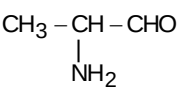
1. Isomers have essentially identical :
(1) Structural formula (2) Chemical properties (3) Molecular formula (4) Physical properties

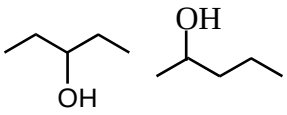
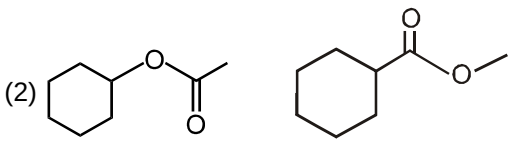
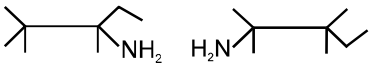
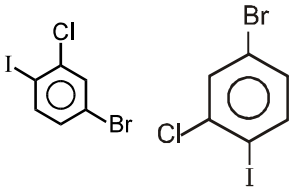
2. Compounds with same molecular formula but different structural formulae are called :
(1) Isomers (2) Isotopes (3) Isobars (4) Isoelectric

3. Which compound is not the isomer of 3-Ethyl-2-methylpentane ?
(1)  (2)  (3)  (4) 

4. What is the correct relationship between the following compounds ?

(1) Chain isomers (2) Position isomers (3) Functional isomers (4) Identical

5. What is the relation between 3-Ethylpentane and 3-Methylhexane ?
(1) Chain isomers (2) Position isomers (3) Functional isomers (4) No relation

6. (I) $CH_3 - CH_2 - NH - CHO$; (II)  Which type of isomerism is observed between I and II ?
(1) Chain isomerism (2) Position isomerism
(3) Functional isomerism (4) Metamerism

7. Which of the following is a pair of metamers ?
(1)  (2) 
(3)  (4) 

8. Which of the given set of molecules have similar molecular formula :
(1) Nonane ; 2-Methylheptane (2) 3-Isopropylcyclopent-1-ene ; 3-Methylhexane
(3) 3-Methylcyclopent-1-ene ; Penta-1,3-diene (4) Ethylcyclohexane ; Oct-2-ene

9. Which of the following pairs of compounds are chain isomers.
(1) Isobutyl alcohol and s-pentyl alcohol (2) Isobutyl alcohol and t-butyl alcohol
(3) Secpentyl alcohol and neopentyl alcohol (4) Ethyl alcohol and ethylene glycol

10. A position isomer of 2-pentanone is :
(1) 3-Pentanone (2) 3-Methyl-2-butanone
(3) 1-Pentanal (4) 2,2-Dimethylpropanal

11. *o*–Cresol & benzyl alcohol are :
(1) Functional isomers (2) Position isomers (3) Chain isomers (4) All the above

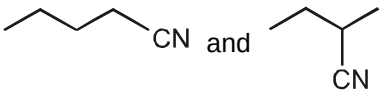
12. Monocarboxylic acids are functional isomers of :
(1) Alcohols (2) Ethers (3) Esters (4) Aldehydes and ketones.

13. CH_3CONH_2 & $HCONHCH_3$ are called :
(1) Position isomers (2) Chain isomers (3) Tautomers (4) Functional isomers

14. Which of the following pair of compounds are not isomers ?
(1) Propyne and cyclopropene (2) Propyne and propadiene
(3) Propene and cyclopropene (4) 1–Propanol and methyoxyethane

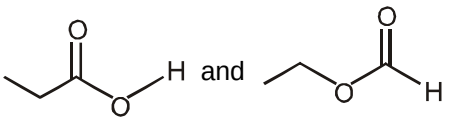
15. Saturated acyclic ethers are isomeric with :
(1) Aldehydes (2) Ketones
(3) Both aldehydes and ketones (4) Alcohols

16. Identify the relationship between the given compounds.



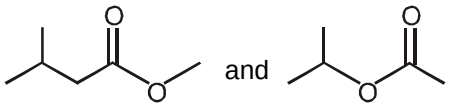
(1) Chain Isomers (2) Functional isomers (3) Homologs (4) Position Isomers

17. Identify the relationship between the given compounds.



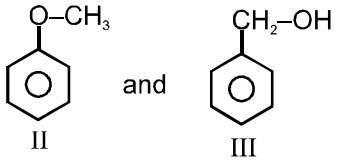
(1) Chain Isomers (2) Functional isomers (3) Homologs (4) Position Isomers

18. Identify the relationship between the given compounds.



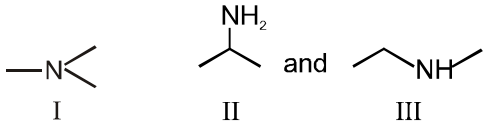
(1) Chain Isomers (2) Functional isomers (3) Homologs (4) Position Isomers

19. Identify the relationship among the followings :



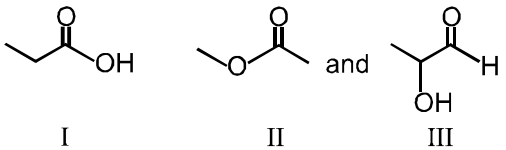
(1) Chain Isomers (2) Functional isomers (3) Metamers (4) Position Isomers

20. Identify the relationship among the followings :



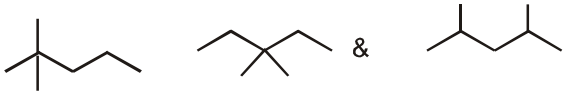
(1) Chain Isomers (2) Functional isomers (3) Metamers (4) Position Isomers

21. Identify the relationship among the followings :



(1) Chain Isomers (2) Functional isomers (3) Metamers (4) Position Isomers

22. Identify the relationship among the followings :



I II III

(1) Chain Isomers (2) Functional isomers (3) Metamers (4) Position Isomers

23. Which of the following pair of compounds are homologues :-

(1) 1-Propanol & 2-Propanol (2) Ethanol & Propanal

(3) Acetone & Acetaldehyde (4) Acetic acid & Butyric acid

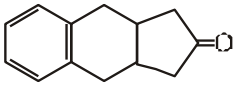
24. $BrCH_2–CH_2–CH=O$ and $CH_3–CH_2–\underset{\underset{Br}{|}}{C}=O$ are

(1) Functional isomers (2) Position isomers (3) Chain isomers (4) Metamers

25. The simplest pair of compounds exhibiting functional group isomerism have a minimum of

(1) Four carbon (2) Three carbon (3) Five carbon (4) Two carbon

Section (L) : Number of Structural Isomers

1. Degree of unsaturation in  is :

(1) 3 (2) 4 (3) 7 (4) 6.

2. How many positional isomers are possible for dimethylcyclohexane ?

(1) 3 (2) 4 (3) 5 (4) 6

3. How many aromatic isomers are possible for trichlorobenzene ($C_6H_3Cl_3$) ?

(1) 2 (2) 3 (3) 4 (4) 5

4. The number of ether isomers represented by formula $C_4H_{10}O$ is (only structural) :

(1) 4 (2) 3 (3) 2 (4) 1

5. Total number of 2° amine isomers of $C_4H_{11}N$ would be (only structural) :

(1) 4 (2) 3 (3) 5 (4) 2

6. Find the number of total structurally isomeric 3° amides with molecular formula $C_5H_{11}NO$:

(1) 4 (2) 3 (3) 2 (4) 5

7. How many structural isomers of all the tertiary alcohols with molecular formula $C_6H_{14}O$?

(1) 2 (2) 3 (3) 4 (4) 5

8. The number of structural isomers for C_5H_{10} is :

(1) 8 (2) 6 (3) 9 (4) 10

9. Molecular formula $C_4H_{10}O$ represent :

(1) Two primary alcohol (2) One secondary alcohol

(3) One tertiary alcohol (4) All of these

10. The number of isomeric aldehydes and ketones with formula $C_5H_{10}O$ are (structural isomers)

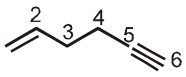
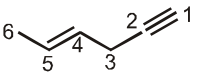
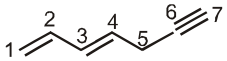
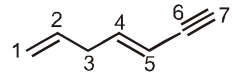
(1) 7 (2) 6 (3) 5 (4) 8

Exercise-2

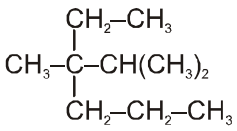
1. How many σ and π bonds are present in CH_3COOH respectively ?

(1) 1, 7 (2) 5, 2 (3) 7, 1 (4) 3, 2

2. Which is incorrect numbering in the following compounds as per IUPAC rules ?

(1)  (2)  (3)  (4) 

3. The IUPAC name of the given structure is :-

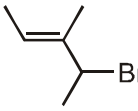


(1) 3-Methyl-3-isopropylhexane (2) 3-Isopropyl-3-methylhexane

(3) 3-Ethyl-2,3-dimethylhexane (4) 2,3-Dimethyl-3-ethylhexane

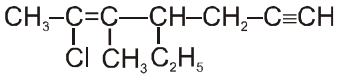
4. $CH_3 - CH = CH - C \equiv CH$ has IUPAC name :

(1) Pent-2-en-4-yne (2) Pent-4-yn-2-ene (3) Pent-1-yn-3-ene (4) Pent-3-en-1-yne

5. The IUPAC name of  is :

(1) 2-Bromo-3-methylbut-3-ene (2) 4-Bromo-3-methylpent-2-ene

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

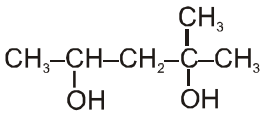
6. The IUPAC name of  is :

(1) 6–Chloro–4–ethyl–5–methylhept–5–en–1–yne

(2) 6–Chloro–4–ethyl–5–methylhept–1–yn–5–ene

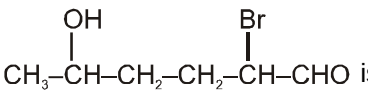
(3) 2–Chloro–4–ethyl–3–methylhept–2–en–6–yne

(4) 2–Chloro–4–ethyl–3–methylhept–6–yn–2–ene

7. The IUPAC name of the compound  is ५

(1) 1,1–Dimethylbutane–1,3–diol (2) 1,3,3–Trimethylpropane–1,3–diol

(3) 2–Methylpentane–2,4–diol (4) 1,3,3–Trimethyl–1,3–propanediol

8. The correct name for the compound  is :

(1) 2-Bromo-5-hydroxyhexanal (2) 1-Bromo-4-hydroxypentanal

(3) 2-Hydroxy-5-bromohexanal (4) None of these

9. The correct structure for the compound Hept-3-en-5--yne -2-one is :

(1) $H_3C - CH = CH - C \equiv C - \overset{\overset{O}{\|}}{C} - CH_3$

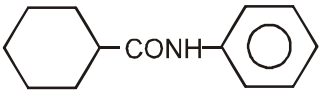
(2) $HC \equiv C - CH_2 - CH = CH - \overset{\overset{O}{\|}}{C} - CH_3$

(3) $H_3C - HC = CH - CH = CH - \overset{\overset{O}{\|}}{C} - CH_3$

(4) $H_3C - C \equiv C - CH = CH - \overset{\overset{O}{\|}}{C} - CH_3$

10. The IUPAC name of CH_3CH_2NHCHO is :-

(1) N-formyl ethanamine
(2) Ethyl amino methanal
(3) N-ethyl methanamide
(4) N-ethyl methanol

11. The IUPAC name of  is :

(1) N-Cyclohexylbenzamide
(2) N-Phenyl-N-cyclohexylmethanamide
(3) N-Phenylcyclohexanecarboxamide
(4) N-Cyclohexenyl-N-phenylmethanamide

12. The correct IUPAC name of $HOOC-\underset{\underset{COOH}{|}}{CH}-COOH$ is :

(1) Tricarboxymethane
(2) Propanetrioic acid
(3) Tributanoic acid
(4) Methanetricarboxylic acid

13. The IUPAC name of the compound $\underset{CN}{CH_2}-\underset{CN}{CH}-\underset{CN}{CH_2}$ is :

(1) 1,2,3–Tricyanopropane
(2) 3–Cyanopentane–1,5–dinitrile
(3) Propane–1,2,3–tricarbonitrile
(4) Propan–1,2,3–tricarbylamine.

14. Indicate the wrongly named compound :

(1) $CH_3-\underset{\underset{CH_3}{|}}{CH}-CH_2-CH_2-CHO$ (4–Methyl–1–pentanal)

(2) $CH_3-\underset{\underset{CH_3}{|}}{CH}-C\equiv C-COOH$ (4–Methyl–2–pentyn–1–oic acid)

(3) $CH_3CH_2CH_2-\underset{\underset{CH_3}{|}}{CH}-COOH$ (2–Methyl–1–pentanoic acid)

(4) $CH_3CH_2-CH=CH-\overset{\overset{O}{\|}}{C}-CH_3$ (3–Hexen–5–one)

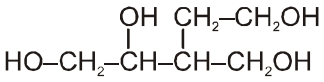
15. The IUPAC name of $CH_3-CH_2-NH-CH_3$ is :-

(1) Methylethylamine
(2) 1-methylaminoethane
(3) N-methylethanamine
(4) N-ethylmethanamine

16. The correct IUPAC name of 2-chloro-3-butanol is :-

(1) 3-Chloro-2-hydroxybutane
(2) 3-Chloro-2-butanol
(3) 3-Hydroxy-2-chlorobutane
(4) 2-Chloro-3-hydroxybutane

17. The IUPAC name of the given compound is :-



(1) 3-hydroxymethylpentane-1,4,5-triol (2) 3-hydroxyethylbutane-1,2,4-triol

(3) 4-hydroxyethyl-1,2,4-trihydroxybutane (4) 3-hydroxymethylpentane-1,2,5-triol

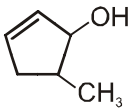
18. The IUPAC name of acetyl acetone is :

(1) 2,5–Pentanedione (2) 2,4–Pentanedione

(3) 2,4–Hexanedione (4) 2,4–Butanedione

19. 3-Phenylprop-2-enoic acid is the IUPAC name of :

(1) Mendallic acid (2) Adipic acid (3) Succinic acid (4) Cinnamic acid

20. The IUPAC name of the compound  is :

(1) 4-Methylcyclopent-1-en-2-ol (2) 2-Methylcyclopent-4-en-1-ol

(3) 3-Methylcyclopent-1-en-2-ol (4) 5-Methylcyclopent-2-en-1-ol

21. The IUPAC name of glycerine is-

(1) Glycerol (2) 1, 2-Ethanediol (3) Propane-1,2,3- triol (4) 1, 2, 3-Trihydroxypropane

22. Phenol is also called :

(1) salicylic acid (2) benzyl alcohol (3) carbolic acid (4) salol

23. Which of the following homologous series has incorrect general formula :-

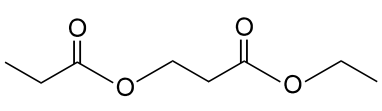
(1) Alkyne C_nH_{2n-2} (2) Alkanol $C_nH_{2n+2}O$

(3) Alkanal $C_nH_{2n+1}O$ (4) Carboxylic acid $C_nH_{2n}O_2$

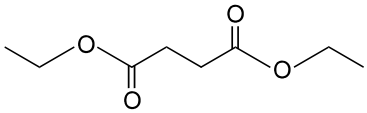
24. Picric acid is a yellow coloured compound. Its chemical name is :

(1) trinitrobenzene (2) 2,4,6-trinitrophenol (3) trinitrotoluene (4) trinitroaniline

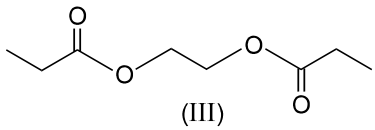
25. The correct relationship among the following pairs of given compounds is



(I)



(II)



(III)

	(I, II)	(II, III)
(1)	Functional Isomers	Metamers
(2)	Metamers	Functional Isomers
(3)	Metamers	Metamers
(4)	Functional Isomers	Functional Isomers

26. An organic compound X (molecular formula $C_6H_7O_2N$) has six carbon atoms in a ring system, two double bonds and a nitro group as substituent, X is
(1) Homocyclic but not aromatic (2) Aromatic but not homocyclic
(3) Homocyclic and aromatic (4) Heterocyclic and aromatic

27. The compound which is not isomeric with diethyl ether is
(1) n–Propyl methyl ether (2) Butanol –1
(3) 2–Methyl propan-1-ol (4) Butanone

28. Dimethylcarbinol is isomeric with :
(1) Isopropyl alcohol (2) Isobutyl alcohol (3) sec-butyl alcohol (4) Ethylcarbinol

29. The formula $C_3H_6O_2$ represents
(1) Methyl ethanoate (2) Propanoic acid (3) Ethyl methanoate (4) All the three above.

30. How many isomers of $C_5H_{11}OH$ will be primary alcohols ?
(1) Four (2) Five (3) Three (4) Two

31. The number of possible alkynes with molecular formula C_5H_8 is :
(1) 6 (2) 5 (3) 4 (4) 3

32. What is true for 1,2–pentadiene ?
(1) It is functional isomers of pentyne (2) It is position isomer of pentyne
(3) It is chain isomer of 3–methyl–1–butyne (4) It is metamer of cyclopentene

33. Which of the following is not an isomer of allyl alcohol ?
(1) Acetone (2) 1–Propanol (3) 1,2 - Epoxypropane (4) Cyclopropanol

34. Total number of structure isomers of $C_4H_{10}O$ is :
(1) 7 (2) 4 (3) 3 (4) 8

35. How many acids and esters are possible for the compound with molecular formula $C_4H_8O_2$?
(1) Two acids + Two esters (2) Two acids + Four esters
(3) Four acids + Two esters (4) Three acids + Three esters

36. How many structure isomers could be obtained from the alkane C_6H_{14} ?
(1) Four (2) Five (3) Six (4) Seven

37. The number of dihydric phenols possible with the molecular formula $C_6H_6O_2$ is
(1) 2 (2) 3 (3) 4 (4) 5

38. Structural isomers possible for $C_4H_8Br_2$ are
(1) 9 (2) 8 (3) 7 (4) 6

39. How many structures are possible containing aromatic ring, having molecular formula $C_7H_6O_2$?
(1) 2 (2) 3 (3) 4 (4) 5

40. The third member of the family of alkenynes has the molecular formula :-
(1) C_6H_6 (2) C_5H_6 (3) C_6H_8 (4) C_4H_4

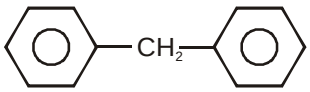
41. Which of the following is not a metamer of $C_4H_{10}O$
(1) Diethyl ether (2) Methyl n-propyl ether
(3) 2-Methoxy propane (4) Isobutyl alcohol

Exercise-3

PART - I : NEET / AIPMT QUESTION (PREVIOUS YEARS)

1. IUPAC name of $CH_2=CH-CH_2-CH_2-C\equiv CH$ is : **[AIPMT-2002]**

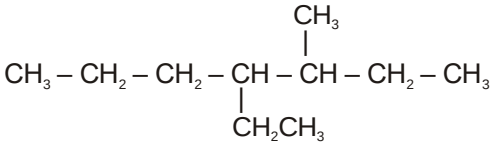
(1) 1, 4-Hexenyne (2) 1-Hexen-5-yne (3) 1-Hexyn-5-ene (4) 1, 4-Hexyene

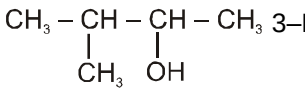
2. The molecular formula of diphenyl methane,  , is $C_{13}H_{12}$. **[AIPMT-2004]**

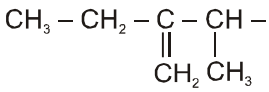
How many structural isomers are possible when one of the hydrogen is replaced by chlorine atom

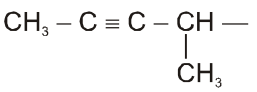
(1) 4 (2) 8 (3) 7 (4) 6

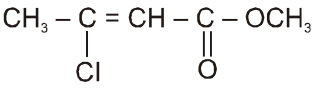
3. Name of some compounds are given. Which one is not in IUPAC system ? **[AIPMT-2005]**

(1)  3–Methyl–4–ethyl heptane

(2)  3–Methyl–2–butanol

(3)  2–Ethyl–3–methyl–but–1–ene

(4)  4–Methyl–2–pentyne

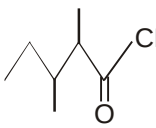
4.  is named in IUPAC as : **[AIPMT-2005]**

(1) Methyl 3–chloro–2–butenoate (2) Methyl 4–chloro–2–pentanoate

(3) Methoxy 3–chloro butanol (4) Methoxy 2–chloro butenone

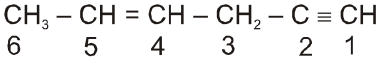
5. The general molecular formula, which represents the homologous series of alkanol is **[AIPMT-2006]**

(1) $C_nH_{2n}O_2$ (2) $C_nH_{2n}O$ (3) $C_nH_{2n+1}O$ (4) $C_nH_{2n+2}O$

6. The IUPAC name of  is : **[AIPMT-2006]**

(1) 3, 4–dimethylpentanoyl chloride (2) 1–chloro–1–oxo–2,3–dimethylpentane

(3) 2–ethyl–3–methylbutanoyl chloride (4) 2, 3–dimethylpentanoyl chloride

7. In the hydrocarbon 

The state of hybridization of carbons 1, 3 and 5 are in the following sequence : **[AIPMT-2008]**

(1) sp, sp^2, sp^3 (2) sp^3, sp^2, sp (3) sp^2, sp, sp^3 (4) sp, sp^3, sp^2

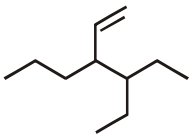
8. The homologue of ethyne is : **[AIPMT 2008]**

(1) C_2H_2 (2) C_2H_6 (3) C_3H_8 (4) C_3H_4

9. Considering the state of hybridization of carbon atoms, find out the molecule among the following which is linear ? **[AIPMT (Scre) 2011]**

(1) $CH_3–CH=CH–CH_3$ (2) $CH_3–C\equiv C–CH_3$

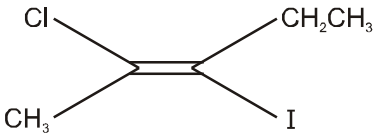
(3) $CH_2=CH–CH_2–C\equiv CH$ (4) $CH_3–CH_2–CH_2–CH_3$

10. The correct IUPAC name of the compound  is : **[AIPMT (Scre) 2011]**

(1) 4-Ethyl-3-propylhex-1-ene (2) 3-Ethyl-4-ethenylheptane

(3) 3-Ethyl-4-propylhex-1-ene (4) 3-(1-ethylpropyl)hex-1-ene

11. The IUPAC name of the following compound **[AIPMT-Scre-2011]**

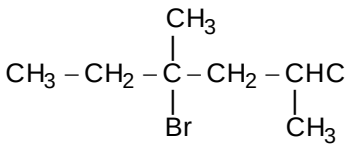
 is

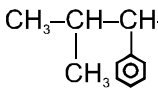
(1) trans-2-chloro-3-iodo-2-pentene (2) cis-3-iodo-4-chloro-3-pentene

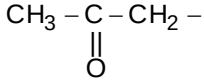
(3) trans-3-iodo-4-chloro-3-pentene (4) cis-2-chloro-3-iodo-2-pentene

12. Which nomenclature is not according to IUPAC system ? **[AIPMT (Pre) 2012]**

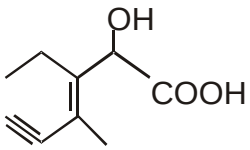
(1) $Br–CH_2–CH=CH_2$, 1–Bromoprop–2–ene

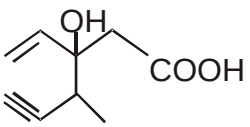
(2)  , 4–Bromo, 2, 4–dimethylhexane

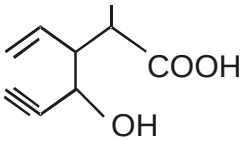
(3)  , 2–Methyl–3–phenylpentane

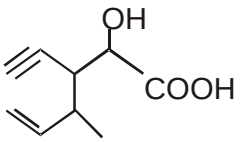
(4)  5–oxohexanoic acid

13. Structure of the compound whose IUPAC name is 3-Ethyl-2-hydroxy-4-methylhex-3-en-5-ynoic acid is : **[NEET 2013]**

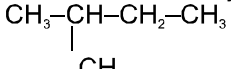
(1) 

(2) 

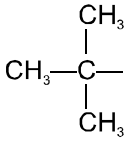
(3) 

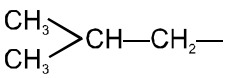
(4) 

14. The structure of isobutyl group in an organic compound is : **[NEET 2013]**

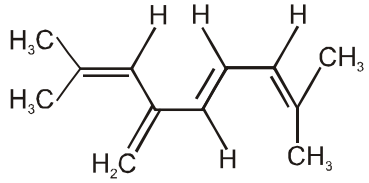
(1) 

(2) $CH_3–CH_2–CH_2–CH_2–$

(3) 

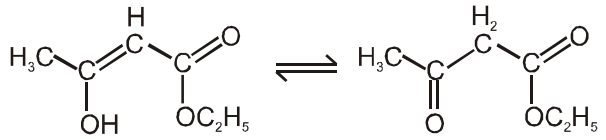
(4) 

15. The total number of π-bond electrons in the following structure is : **[AIPMT 2015]**



(1) 8 (2) 12 (3) 16 (4) 4

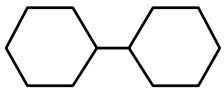
16. The enolic form of ethyl acetoacetate as below has : **[AIPMT 2015]**

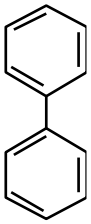


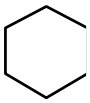
(1) 16 sigma bonds and 1 pi- bond (2) 9 sigma bonds and 2 pi- bond
(3) 9 sigma bonds and 1 pi- bond (4) 18 sigma bonds and 2 pi- bond

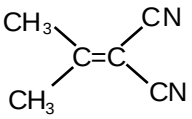
17. The number of structural isomers possible from the molecular formula C_3H_9N is : **[Re-AIPMT 2015]**
(1) 4 (2) 5 (3) 2 (4) 3

18. In which of the following molecules, all atoms are coplanar ? **[NEET-2 2016]**

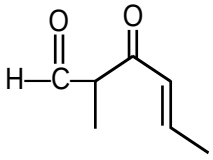
(1) 

(2) 

(3) 

(4) 

19. The IUPAC name of the compound is **[NEET- 2017]**



(1) 3–keto–2–methylhex–4–enal (2) 5–formylhex–2–en–3–one
(3) 5–methyl–4–oxohex–2–en–5–al (4) 3–keto–2–methylhex–5–enal

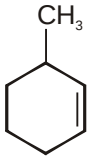
20. Which of the following molecules represents the order of hybridization sp^2, sp^2, sp, sp from left to right atoms? **[NEET- 2018]**
(1) $HC \equiv C - C \equiv CH$ (2) $CH_3–CH = CH – CH_3$
(3) $CH_2 = CH – CH = CH_2$ (4) $CH_2 = CH – C \equiv CH$

21. The number of sigma (σ) and pi(π) bonds in pent-2-en-4-yne is : **[NEET-1- 2019]**
(1) 13 σ bonds and no π bond (2) 10 σ bonds and 3 π bond
(3) 8 σ bonds and 5 π bond (4) 11 σ bonds and 2 π bond

PART - II : AIIMS QUESTIONS (PREVIOUS YEARS)

1. The number of σ and π bonds present in Pent-1-en-4-yne is : **[AIIMS 2002]**

(1) 3, 10 (2) 9, 4 (3) 4, 9 (4) 10, 3

2. IUPAC name of  is : **[AIIMS-2003]**

(1) 3–Methyl cyclohexene (2) 1–Methyl cyclohex–2–ene.

(3) 6–Methyl cyclohexene (4) 1–Methyl cyclohex–5–ene.

3. The compound having only primary hydrogen atoms is : **[AIIMS-2004]**

(1) Isobutane (2) 2, 3-Dimethyl-2-butene

(3) Cyclohexane (4) Propene

4. Which of the following is a primary halide? **[AIIMS 2008]**

(1) Iso-propyl iodide (2) Secondary butyl iodide

(3) Tertiary butyl bromide (4) Neo-hexyl chloride

5. The correct structure of 4-Bromo-3-methylbut-1-ene is : **[AIIMS 2008]**

(1) Br – CH = C $(CH_3)_2$ (2) CH_2 = CH – CH(CH_3) – CH_2Br

(3) $CH_2 = C(CH_3)CH_2CH_2Br$ (4) CH_3 – C(CH_3) = $CHCH_2$ – Br

6. The IUPAC name for tertiary butyl iodide is - **[AIIMS 2010]**

(1) 4-iodobutane (2) 2-iodobutane

(3) 1-iodo-3-methyl propane (4) 2-iodo-2-methyl propane

7. Isoprene (Monomer of natural rubber) is **[AIIMS 2011]**

(1) 3-Methyl-1,2-butadiene (2) 2-Methyl-1,3-butadiene

(3) 3-Chloro-1,2-butadiene (4) 2-Chloro-1,3-butadiene

8. In a hydrocarbon, mass ratio of hydrogen and carbon is 1:3, the empirical formula of hydrocarbon is **[AIIMS 2012]**

(1) CH_4 (2) CH_2 (3) C_2H (4) CH_3

9. The incorrect IUPAC name is **[AIIMS 2012]**

(1) $CH_3–\underset{\underset{O}{\|}}{C}–\underset{\underset{CH_3}{|}}{CH}–CH_3$

2-methyl-3-butanone

(2) $CH_3–\underset{\underset{CH_3}{|}}{CH}–\underset{\underset{CH_2CH_3}{|}}{CH}–CH_3$

2,3-dimethylpentane

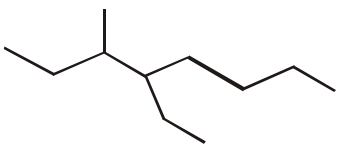
(3) $CH_3–C\equiv CCH(CH_3)_2$

4-methyl-2-pentyne

(4) $CH_3–\underset{\underset{Cl}{|}}{CH}–\underset{\underset{Br}{|}}{CH}–CH_3$

2-Bromo-3-chlorobutan

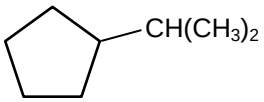
10. Name of the compound given below is **[AIIMS 2013]**



(1) 3-Methyl-4-ethyloctane (2) 2,3-Diethylheptane

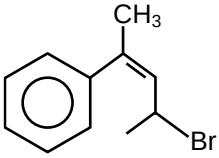
(3) 5-Ethyl-6-methyloctane (4) 4-Ethyl-3-methyloctane

11. The IUPAC nomenclature of **[AIIMS 2017]**

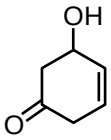


(1) 2-Cyclopentylpropane
(2) 1,1-dimethyl-1-cyclopentylmethane
(3) 1-(1-methyl ethyl) cyclopentane
(4) None of the above

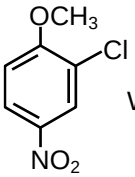
12. What is IUPAC name of following? **[AIIMS 2018]**



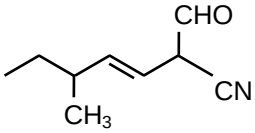
(1) 4-Bromo-2-phenylpent-2-ene
(2) 2-Bromo-4-phenylpent-2-ene
(3) 4-Bromo-2-phenylpent-4-ene
(4) 2-Bromo-4-phenylpent-3-ene

13.  Give IUPAC Name **[AIIMS 2018]**

(1) 5-Hydroxy cyclohex-3-en-1-one
(2) 3-Hydroxy cyclohex-5-en-1-one
(3) 8-Hydroxy cyclohex-3-en-1-one
(1) 7-Hydroxy cyclohex-5-en-1-one

14.  Write IUPAC name of following **[AIIMS 2018]**

(1) 2-chloro-1-methoxy-4-nitrobenzene
(2) 2-chloro-4-nitro anisole
(3) 3-chloro-4-methoxy-1-nitrobenzene
(4) 1-chloro-2-methoxy-5-nitrobenzene

15. Give IUPAC name of :  **[AIIMS 2018]**

(1) 2–cyano–5–methyl hept–3–enal
(2) 2–formyl–5–methyl hept–3–enenitrile
(3) 2–oxo–5–methyl hept–3–ene–1–nitrile
(4) 1–cyano–1–formyl–4–methyl hex–2–ene

PART - III : JEE (MAIN) / AIEEE PROBLEMS (PREVIOUS YEARS)

1. In which of the following species, the underlined carbon having sp^3 hybridisation? **[AIEEE- 2002]**

(1) $CH_3\underline{C}OOH$ (2) $CH_3\underline{C}H_2OH$ (3) $CH_3\underline{C}OCH_3$ (4) $CH_2=\underline{C}H-CH_3$

2. Which of the following compounds has wrong IUPAC name: **[AIEEE- 2002]**

(1) $CH_3 - CH_2 - CH_2 - COO - CH_2CH_3$ → Ethyl butanoate

(2) $CH_3 - \underset{\displaystyle CH_3}{\underset{|}{CH}} - CH_2 - CHO$ → 3-Methylbutanal

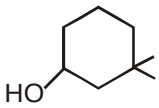
(3) $CH_3 - \underset{\displaystyle OH}{\underset{|}{CH}} - \underset{\displaystyle CH_3}{\underset{|}{CH}} - CH_3$ → 2-Methyl-3-butanol

(4) $CH_3 - \underset{\displaystyle CH_3}{\underset{|}{CH}} - \overset{\displaystyle O}{\overset{\|}{C}} - CH_2 - CH_3$ → 2-Methyl-3-pentanone

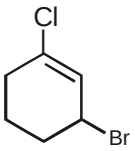
3. The functional group, which is found in amino acid is **[AIEEE- 2002]**

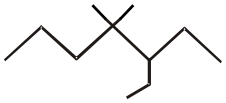
(1) – COOH group (2) – NH_2 group (3) – CH_3 group (4) both (1) and (2).

4. The general formula $C_nH_{2n}O_2$ could be for open chain **[AIEEE- 2003]**
(1) diketones (2) carboxylic acids (3) diols (4) dialdehydes.

5. The IUPAC name of the compound  is **[AIEEE- 2004]**
(1) 3, 3 - dimethyl - 1 - hydroxy cyclohexane (2) 1, 1 - dimethyl - 3 -hydroxy cyclohexane
(3) 3, 3 - dimethyl - 1 - cyclohexanol (4) 1, 1 - dimethyl - 3 - cyclohexanol

6. Which one of the following does not have sp^2 hybridized carbon? **[AIEEE- 2004]**
(1) acetone (2)acetic acid (3) acetonitrile (4) acetamide

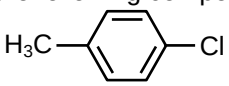
7. The IUPAC name of the compound shown below is  **[AIEEE- 2006]**
(1) 2 - Bromo-6-chlorocyclohex-1-ene (2) 6-Bromo-2-chlorocyclohexene
(3) 3-Bromo-1-chlorocyclohex-1-ene (4) 1-Bromo-3-chlorocyclohexene

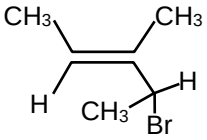
8. The IUPAC name of  is : **[AIEEE-2007, 3/120]**
(1) 5, 5-Diethyl -4, 4-dimethylpentane (2) 3-Ethyl-4,4-dimethylheptane
(3) 1, 1-Diethyl-2, 2-dimethylpentane (4) 4, 4-Dimethyl-5, 5-diethylpentane

9. The correct decreasing order of priority forthe functional groups of organic compounds in the IUPAC system of nomenclature is **[AIEEE-2008, 3/105]**
(1) $–SO_3H$, –COOH, $–CONH_2$, –CHO (2) –CHO, –COOH, $–SO_3H$, $–CONH_2$
(3) $–CONH_2$, –CHO, $–SO_3H$, –COOH (4) –COOH, $–SO_3H$, $–CONH_2$, –CHO

10. The IUPAC name of neopentane is : **[AIEEE-2009, 4/144]**
(1) 2, 2-dimethylpropane (2) 2-methylpropane
(3) 2, 2-dimethylbutane (4) 2-methylbutane

11. Aspirin is known as : **[AIEEE 2012, 4/120]**
(1) Acetyl salicylic acid (2) Phenyl salicylate
(3) Acetyl salicylate (4) Methyl salicylic acid

12. The IUPAC name(s) of the following compound is (are) **[JEE Main-2017]**

(1) 4-methylchlorobenzene (2) 1-chlorotoluene
(3) 1-chloro-4-methylbenzene (4) 1-methyl-4-chlorobenzene

13. What is the IUPAC name of the following compound? **[JEE Main-2019]**

(1) 2-Bromo-3- methylpent-3-ene (2) 3-Bromo-1, 2-dimethylbut-1-ene
(3) 4-Bromo-3- methylpent-2-ene (4) 3-bromo-3-methyl-1, 2-dimethyprop-1-ene

Answers

EXERCISE - 1

SECTION (A)

1.	(1)	**2.**	(1)	**3.**	(2)	**4.**	(1)	**5.**	(2)	**6.**	(1)	**7.**	(2)
8.	(2)	**9.**	(3)	**10.**	(4)								

SECTION (B)

1.	(1)	**2.**	(2)	**3.**	(1)	**4.**	(3)	**5.**	(4)	**6.**	(2)	**7.**	(3)
8.	(3)	**9.**	(4)										

SECTION (C)

1.	(3)	**2.**	(3)	**3.**	(2)	**4.**	(4)	**5.**	(4)	**6.**	(3)	**7.**	(1)
8.	(3)	**9.**	(2)	**10.**	(3)								

SECTION (D)

1.	(4)	**2.**	(3)	**3.**	(3)	**4.**	(2)	**5.**	(4)	**6.**	(3)	**7.**	(1)
8.	(2)	**9.**	(2)	**10.**	(2)								

SECTION (E)

1.	(3)	**2.**	(2)	**3.**	(2)	**4.**	(3)	**5.**	(1)	**6.**	(2)	**7.**	(1)
8.	(2)	**9.**	(3)										

SECTION (F)

1.	(1)	**2.**	(2)	**3.**	(1)	**4.**	(2)	**5.**	(2)	**6.**	(2)	**7.**	(2)
8.	(2)	**9.**	(2)										

SECTION (G)

1.	(2)	**2.**	(1)	**3.**	(3)	**4.**	(3)	**5.**	(3)	**6.**	(4)	**7.**	(2)
8.	(2)	**9.**	(4)	**10.**	(2)	**11.**	(2)						

SECTION (H)

1.	(1)	**2.**	(4)	**3.**	(3)	**4.**	(2)	**5.**	(2)	**6.**	(1)	**7.**	(1)
8.	(2)	**9.**	(4)	**10.**	(1)	**11.**	(3)						

SECTION (I)

1.	(3)	**2.**	(2)	**3.**	(4)	**4.**	(2)	**5.**	(2)	**6.**	(3)	**7.**	(1)

SECTION (J)

1.	(4)	**2.**	(1)	**3.**	(1)	**4.**	(1)	**5.**	(4)	**6.**	(2)		

SECTION (K)

1.	(3)	**2.**	(1)	**3.**	(2)	**4.**	(1)	**5.**	(1)	**6.**	(3)	**7.**	(2)
8.	(4)	**9.**	(3)	**10.**	(1)	**11.**	(1)	**12.**	(3)	**13.**	(4)	**14.**	(3)
15.	(4)	**16.**	(1)	**17.**	(2)	**18.**	(3)	**19.**	(2)	**20.**	(2)	**21.**	(2)
22.	(4)	**23.**	(4)	**24.**	(1)	**25.**	(4)						

SECTION (L)

1.	(3)	**2.**	(2)	**3.**	(2)	**4.**	(2)	**5.**	(2)	**6.**	(4)	**7.**	(2)
8.	(4)	**9.**	(4)	**10.**	(1)								

EXERCISE - 2

1.	(3)	**2.**	(4)	**3.**	(3)	**4.**	(4)	**5.**	(2)	**6.**	(1)	**7.**	(3)
8.	(1)	**9.**	(4)	**10.**	(3)	**11.**	(3)	**12.**	(4)	**13.**	(3)	**14.**	(4)
15.	(3)	**16.**	(2)	**17.**	(4)	**18.**	(2)	**19.**	(4)	**20.**	(4)	**21.**	(3)
22.	(3)	**23.**	(3)	**24.**	(2)	**25.**	(3)	**26.**	(1)	**27.**	(4)	**28.**	(4)
29.	(4)	**30.**	(1)	**31.**	(4)	**32.**	(1)	**33.**	(2)	**34.**	(1)	**35.**	(2)
36.	(2)	**37.**	(2)	**38.**	(1)	**39.**	(4)	**40.**	(3)	**41.**	(4)		

EXERCISE - 3

PART-I

1.	(2)	**2.**	(1)	**3.**	(1)	**4.**	(1)	**5.**	(4)	**6.**	(4)	**7.**	(4)
8.	(4)	**9.**	(2)	**10.**	(1)	**11.**	(1)	**12.**	(1)	**13.**	(1)	**14.**	(4)
15.	(1)	**16.**	(4)	**17.**	(1)	**18.**	(2)	**19.**	(1)	**20.**	(4)	**21.**	(2)

PART-II

1.	(4)	**2.**	(1)	**3.**	(2)	**4.**	(4)	**5.**	(2)	**6.**	(4)	**7.**	(2)
8.	(1)	**9.**	(1)	**10.**	(4)	**11.**	(3)	**12.**	(1)	**13.**	(1)	**14.**	(1)
15.	(2)												

PART-III

1.	(2)	**2.**	(3)	**3.**	(4)	**4.**	(2)	**5.**	(3)	**6.**	(3)	**7.**	(3)
8.	(2)	**9.**	(4)	**10.**	(1)	**11.**	(1)	**12.**	(3)	**13.**	(3)		