

CLASSIFICATION & NOMENCLATURE SYSTEM

EXERCISE-I

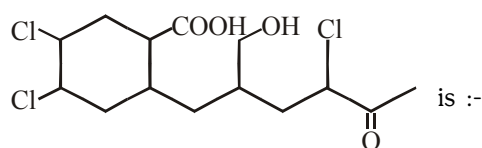
1.  has IUPAC name :-

- (1) 3-hydroxy cyclohex-5-en carboxylic acid
- (2) 5-hydroxy cyclohex-2-en carboxylic acid
- (3) 5-hydroxy cyclohexanoic acid
- (4) 3-hydroxy cyclohex-5- enoic acid

2. The IUPAC name of the compound  is:-

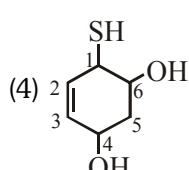
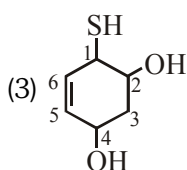
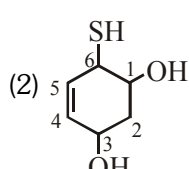
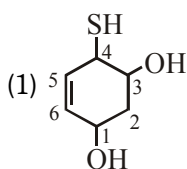
- (1) 3, 4-Dimethylbut-2-en-4-ol
- (2) 3-Methylpent-2-en-4-ol
- (3) 3-Methylpent-3-en-2-ol
- (4) 1, 2-Dimethylbut-2-en-1-ol

3. The correct IUPAC name of

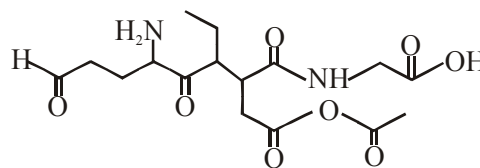


- (1) 3, 4 dichloro-6-[4-chloro-2-(hydroxymethyl)-5-oxohexyl] cyclohexane -1- carboxylic acid
- (2) 4,5-dichloro-2-[4-acetyl-4-chloro-2-(hydroxymethyl butyl)] cyclohexane -1- carboxylic acid.
- (3) 4-5-dichloro-2-[4-chloro -2- (hydroxymethyl) -5-oxohexyl] cyclohexane -1- carboxylic acid.
- (4) None of the above

4. Select the structure with correct numbering for IUPAC name of the compound -



5. The number of functional groups present is the following compound is :-



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

6. Alicyclic compounds are

- (1) Aromatic compounds
- (2) Aliphatic cyclic compounds
- (3) Heterocyclic compounds
- (4) None of the above

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

- (1) 3, 6, 0
- (2) 3, 4, 2
- (3) 0, 3, 6
- (4) 3, 3, 3

8. The compound which has one isopropyl group is:

- (1) 2,2,3,3-Tetramethyl pentane
- (2) 2,2-Dimethyl pentane
- (3) 2,2,3-Trimethyl pentane
- (4) 2-Methyl pentane

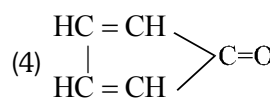
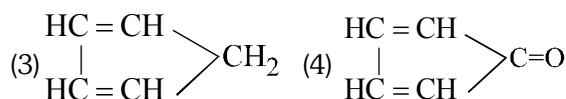
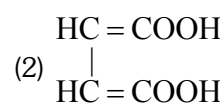
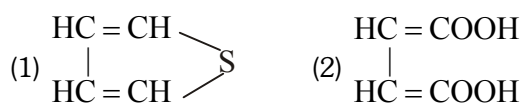
9. Which of the following is the first member of ester homologous series?

- (1) Ethyl ethanoate
- (2) Methyl ethanoate
- (3) Methyl methanoate
- (4) Ethyl methanoate

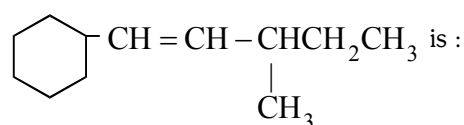
10. The molecular formula of the first member of the family of alkenynes and its name is given by the set

- (1) C₃H₆, Alkene
- (2) C₅H₆, Pent-1-en-3-yne
- (3) C₆H₈, Hex-1-en-5-yne
- (4) C₄H₄, Butenyne

11. Which of the following is a heterocyclic compound



12. The IUPAC name of

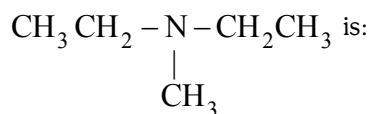


- (1) 1-Cyclohexyl-3-methylpent-1-ene
- (2) 3-Methyl-5-cyclohexylpent-1-ene
- (3) 1-Cyclohexyl-3-ethylbut-1-ene
- (4) 1-Cyclohexyl-3,4-dimethyl-but-1-ene

13. IUPAC name of $\text{CH}_2=\text{CH}-\text{CN}$ is:

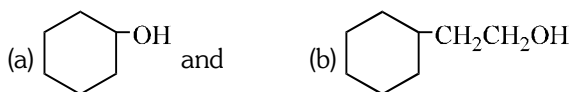
- (1) Ethenenitrile (2) Vinyl cyanide
(3) Cyono ethene (4) Prop-2-enenitrile

14. The IUPAC name of



- (1) N-Methyl-N-ethyl ethanamine
(2) Diethyl methanamine
(3) N-Ethyl-N-methyl ethanamine
(4) Methyl diethyl ethanamine

15.



True statement for the above compounds is:

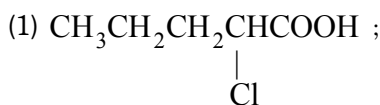
- (1) (a) is phenol while (b) is alcohol
(2) Both (a) and (b) are primary alcohol
(3) (a) is primary and (b) is secondary alcohol
(4) (a) is secondary and (b) is primary alcohol

16. The IUPAC name of $(\text{C}_2\text{H}_5)_2\text{NCH}_2\text{CH}(\text{Cl})\text{COOH}$ is

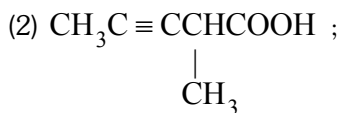


- (1) 2-Chloro-4-N-ethylpentanoic acid
(2) 2-Chloro-3-(N,N-diethyl amino)-propanoic acid
(3) 2-Chloro-2-oxo diethylamine
(4) 2-Chloro-2-carboxy-N-ethyl ethane

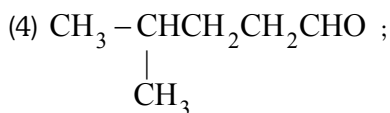
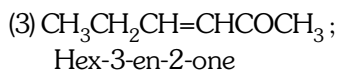
17. Which of the following compound is wrongly named?



2-Chloro pentanoic acid

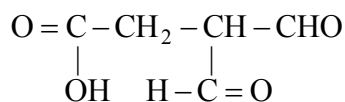


2-Methyl hex-3-enoic acid



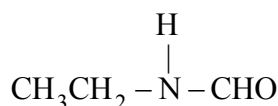
4-Methyl pentanal

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



- (1) 3,3-Diformylpropanoic acid
(2) 3-Formyl-4-oxo-butanoic acid
(3) 3,3-Dioxo propanoic acid
(4) 3,3-Dicarbaldehyde propanoic acid

19. One among the following is the correct IUPAC name of the compound



- (1) N-Formyl aminoethane
(2) N-Ethyl formyl amine
(3) N-Ethyl methanamide
(4) Ethylamino methanal

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

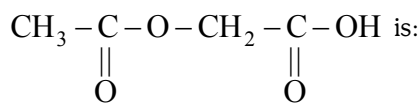
- (1) Cinnamic acid
(2) 1-Phenyl-2-carboxy ethane
(3) 3-Phenyl prop-2-enoic acid
(4) Dihydroxy-3-phenyl propionic acid

21. IUPAC name will be $\text{CH}_2-\text{CH}-\text{CH}_2$

$\begin{array}{ccc} | & | & | \\ \text{CN} & \text{CN} & \text{CN} \end{array}$

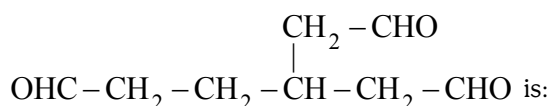
- (1) 1,2,3-Tricyano propane
(2) Propane-1,2,3- trinitrile
(3) 1,2,3-Cyano propane
(4) Propane-1,2,3-tricarbonitrile

22. The IUPAC name of



- (1) 1-Acetoxy acetic acid
(2) 2-Acetoxy ethanoic acid
(3) 2-Ethanoyloxyacetic acid
(4) 2-Ethanoyloxyethanoic acid

23. The IUPAC name of



- (1) 4,4-Di(formylmethyl) butanal
(2) 2-(Formylmethyl) butane-1, 4-dicarbaldehyde
(3) Hexane-3-acetal-1, 6-dial
(4) 3-(Formylmethyl) hexane-1, 6-dial

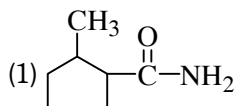
$$(1) \text{CH}_3 - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{O} - \underset{\text{CH}_3}{\underset{|}{\text{CH}}} - \text{CH}_3$$
$$(2) \text{ H}-\underset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{O}-\text{CH}_2-\underset{\text{CH}_3}{\underset{|}{\text{CH}}}-\text{CH}_3$$

(3) $\text{CH}_3 - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{O} - \text{CH}_2 - \underset{\text{CH}_3}{\underset{|}{\text{CH}_2}}$

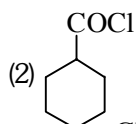
(4) $\text{H}-\underset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{O}-\underset{\text{CH}_3}{\underset{|}{\text{CH}}}-\text{CH}_3$

(1) $-\text{COOH} > -\text{CHO} > -\text{CN} > \text{C}=\text{O}$
 (2) $-\text{COOH} > -\text{CHO} > \text{C}=\text{O} > -\text{CN}$
 (3) $>\text{C}=\text{O} > -\text{CN} > -\text{COOH} > -\text{CHO}$
 (4) $-\text{COOH} > -\text{CN} > -\text{CHO} > \text{C}=\text{O}$

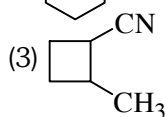
IUPAC Name



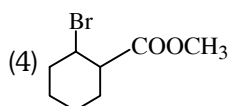
2-methyl cyclopentane
carboxamide



Cyclohexanoyl chloride



2-methyl cyclobutane
carbonitrile



Methyl-2
bromo cyclohexane
carboxylate

CCNC(=O)CC1CCCC(C#N)C1

- (1) 3-(2-cyanopropyl)-N-ethyl pentanamide
- (2) N-ethyl-3-(2-cyanopropyl) pentanamide
- (3) N,3-diethyl-4-cyanohexanamide
- (4) 5-cyano-N, 3-diethyl hexanamide

$$\begin{array}{ccccccc} \text{CH}_3 & - & \text{CH} & - & \text{CH} & - & \text{CH}_3 \\ & & | & & | & & \\ & & & & \text{CH}_3 & & \end{array}$$

- (1) 1,1,-Dimethylpropyl
- (2) 1,2-Dimethylpropyl
- (3) Active iso sec pentyl
- (4) 3-Methyl butyl

(1) 1-Propene (2) 1-Propenyl
(3) 2-Propenyl (4) Allyl

(1) 7σ and 2π (2) 12σ and 5π
(3) 8σ and 2π (4) 13σ and 5π

(1) $\text{CH}_3\text{-NH-C=O}$
 |
 H

(2) Cl-C=O
 |
 H

(3) $\text{H}_2\text{N-CH}_2\text{-C=O}$
 |
 H

(4) All of these

32.  IUPAC name is :-

- (1) 2-Methyl pent-3-ene
- (2) 4-Methyl pent-2-ene
- (3) 3-Methyl pent-2-ene
- (4) 3-Methyl pent-3-ene

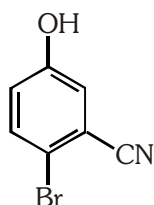
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Que.	1	2	3	4	5	6	7	8	9	10
Ans.	2	3	3	2	3	2	4	4	3	4
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	1	1	4	3	4	2	2	2	3	3
Que.	21	22	23	24	25	26	27	28	29	30
Ans.	4	4	4	4	4	2	4	2	3	4
Que.	31	32								
Ans.	3	2								

11. The IUPAC name of neopentane is :-

[AIEEE -2009]

- (1) 2-methylpropane
- (2) 2, 2-dimethylbutane
- (3) 2-methylbutane
- (4) 2, 2-dimethylpropane

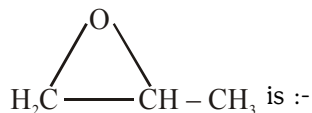
12. The IUPAC name of the following compound is :



[IIT-JEE-2009]

- (1) 4-Bromo-3-cyanophenol
- (2) 2-Bromo-5-hydroxybenzonitrile
- (3) 2-Cyano-4-hydroxybromobenzene
- (4) 6-Bromo-3-hydroxybenzonitrile

13. The IUPAC name of the compound



[AIEEE-2012 (Online)]

- (1) 1, 2-Epoxy propane
- (2) Propylene oxide
- (3) 1, 2-Oxo propane
- (4) 1, 2-Propoxide

PREVIOUS YEARS QUESTIONS				ANSWER KEY			Exercise-II			
Que.	1	2	3	4	5	6	7	8	9	10
Ans.	2	2	4	3	4	3	4	2	2	1
Que.	11	12	13							
Ans.	4	2	1							