

ORGANIC CHEMISTRY

NEET

CRASH COURSE

NOMENCLATURE

SMART ACHIEVERS
JEE | NEET | FOUNDATION

587, Nitikhand-1, Indirapuram, Gzb.

7292077839 / 7292047839 | smartachievers.online

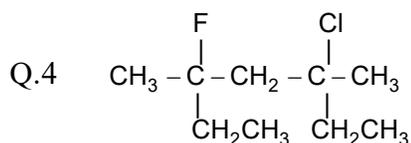
A Unit of SMARTACHIEVERS LEARNING Pvt. Ltd., Delhi

NOMENCLATURE

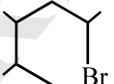
- Q.1 In homologous series :
- (1) Molecular formula is same (2) Structural formula is same
 (3) Physical properties are same (4) General formula is same

- Q.2 Which of the following is the triad of a homologous series -
- (1) CH_3NH_2 , $(\text{CH}_3)_2\text{NH}$, $(\text{CH}_3)_3\text{N}$
 (2) $\text{C}_2\text{H}_5\text{OH}$, $(\text{CH}_3)_2\text{CHOH}$, $(\text{CH}_3)_3\text{COH}$
 (3) $\text{CH}_2 = \text{CH}_2$, $\text{CH}_3 - \text{CH} = \text{CH}_2$, $\text{C}_2\text{H}_5 - \text{CH} = \text{CH}_2$
 (4) Both (2) and (3)

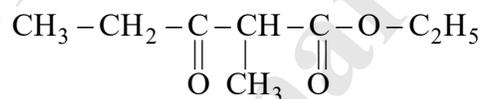
- Q.3 Which one of the following I.U.P.A.C. name is correct ?
- (1) 2-Methyl-3-ethyl pentane (2) 2-Ethyl-3-methyl pentane
 (3) 3-Ethyl-2-methyl pentane (4) 3-Methyl-2-ethyl pentane



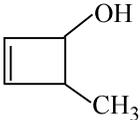
The IUPAC name of this compound is :

- (1) 2-fluoro-4-chloro-2,4-diethyl pentane (2) 3-fluoro-5-chloro-3-methyl-5-ethyl hexane
 (3) 3-chloro-5-fluoro-3,5-dimethyl heptane (4) 3,5-dimethyl-5-fluoro-3-chloro heptane
- Q.5 The IUPAC name of  is -
- (1) 2-bromo-4-isopropylpentane (2) 2, 3-dimethyl-5-bromohexane
 (3) 2-bromo-4, 5-dimethylhexane (4) 5-bromo-2, 3-dimethylhexane

- Q.6 IUPAC name of:



- (1) Ethyl-4-methyl-3-oxo pentanoate (2) 2-Ethoxy carbonyl pentan-3-one
 (3) 4-Ethoxy carbonyl pentan-3-one (4) Ethyl 2-methyl 3-oxo-pentanoate

Q.7 The IUPAC name of  is

- (1) 3-Methyl cyclobut-1-ene-2-ol (2) 4-Methyl cyclobut-2-ene-1-ol
 (3) 4-Methyl cyclobut-1-ene-3-ol (4) 2-Methyl cyclobut-3-ene-1-ol

Q.8
$$\text{CH}_3 - \text{CH}_2 - \overset{\text{CHO}}{\underset{\text{CH}_3}{\text{CH}}} - \text{CH} - \text{CH}_3$$

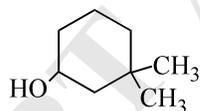
The IUPAC name of this compound is

- (1) 2-isopropyl butanal (2) 2-ethyl-3-methyl butanal
 (3) 3-ethyl-2-methyl butanal (4) 2-methyl pentane-3-aldehyde

Q.9 The I.U.P.A.C name of the compound having structure $\text{C}_2\text{H}_5 - \overset{\text{CH}_2}{\underset{\text{CH}_3}{\text{C}}} - \text{CH} - \text{CH}_3$ is

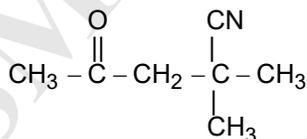
- (1) 3-methyl-2-ethyl butene-1 (2) 2-ethyl-3-methyl butene-1
 (3) 3-ethyl-3-methyl butene-1 (4) ethyl isopropyl ethene

Q.10 The IUPAC name of the given compound is:

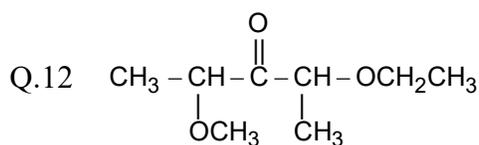


- (1) 1,1-Dimethyl-3-hydroxy cyclohexane (2) 3,3-Dimethyl-1-hydroxy cyclohexane
 (3) 3,3-Dimethylcyclohexanol (4) 1,1-Dimethylcyclohexan-3-ol

Q.11 The IUPAC name of the compound is :



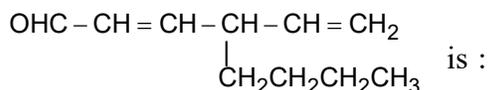
- (1) 4- cyano-4-methyl -2- oxo pentane (2) 2-cyano-2-methyl-4-oxo pentane
 (3) 2, 2-dimethyl -4- oxo pentanenitrile (4) 4- cyano-4-methyl-2-pentanone



The IUPAC name of this compound is

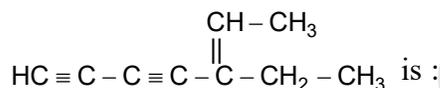
- (1) 2-ethoxy-4-methoxy pentan-3-one
 (2) 2-methoxy-4-ethoxy-pentan-3-one
 (3) 2-ethoxy-4-methoxy pentan-3-ene
 (4) none of these

Q.13 IUPAC name of,



- (1) 4-butyl-2,5-hexadien-1-al
 (2) 5-vinyloct-3-en-1-al
 (3) 5-vinyloct-5-en-8-al
 (4) 3-butyl-1,4-hexadien-6-al

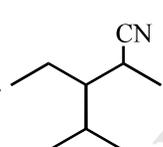
Q.14 The IUPAC name of



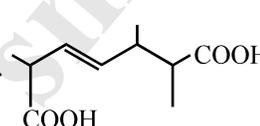
- (1) 5-ethyl- 5-heptene-1, 3- diyne
 (2) 3-ethyl- 2-heptene-4, 6- diyne
 (3) 5-ethenyl-1, 3- heptatriyne
 (4) 3-ethenyl-4, 6-heptatriyne

Q.15 The IUPAC name of  is -

- (1) 3-cyclopropyl-3-ethyl-2-propene
 (2) 1-cyclopropyl-1-ethylpropene
 (3) 3-cyclopropyl-2-pentene
 (4) (1-ethyl-1-propenyl) cyclopropane

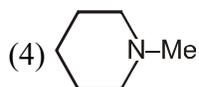
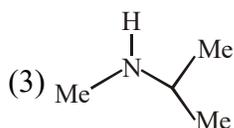
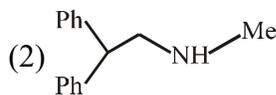
Q.16 The IUPAC name of  is -

- (1) 2-cyano-3-ethyl-4-methylpentane
 (2) 3-isopropyl-2-methylpentanenitrile
 (3) 3-ethyl-2, 4-dimethylpentanenitrile
 (4) 3-isopropyl-2-pentylcyanide

Q.17 The IUPAC name of  is -

- (1) 6-carboxy-2, 3-dimethyl-4-heptenoic acid
 (2) 2, 3, 6-trimethyl-1-heptene-1, 7-dioic acid
 (3) 2, 5, 6-trimethyl-3-heptenedioic acid
 (4) 6-carboxy-2, 5-dimethyl-3-heptenoic acid

Q.24 Identify the 3° amines?



Q.25 Write IUPAC name of the following compound : $\text{CH}_3-\overset{\text{CH}_3}{\text{CH}}-\text{CH}_2-\text{CH}_3$

(1) 2-Methyl propane

(2) 2, 2-Dimethyl propane

(3) 2-Methyl butane

(4) 2, 2-Dimethyl butane

Q.26 IUPAC name of $(\text{CH}_3)_2\text{CHCH}(\text{CH}_3)_2$ is :

(1) 2,2-Dimethylbutane

(2) 2,3-Dimethylbutane

(3) 2,4-Dimethylbutane

(4) 1-Methylpentane

Q.27 IUPAC name of tert-butyl chloride is :

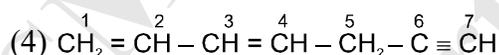
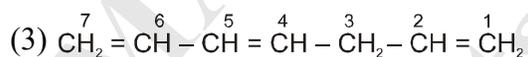
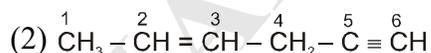
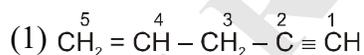
(1) 2-chloro-2-methylbutane

(2) chlorobutane

(3) 2-chlorobutane

(4) 2-chloro-2-methylpropane

Q.28 Select the structure with correct numbering in the chain :



Q.29 The correct IUPAC name of the compound $\text{CH}_2=\text{CH}-\text{CH}_2-\overset{\text{C}_2\text{H}_5}{\text{CH}}-\text{CH}_3$

(1) 4-Ethylpent-1-ene (2) 2-Ethylpent-4-ene (3) 4-Methylhex-1-ene (4) 3-Methylhex-1-ene

Q.30 IUPAC name of $\text{CH}_3-\text{CH}_2-\underset{\text{CH}_2}{\underset{\text{CH}_3}{\text{CH}}}-\underset{\text{CH}_3}{\text{C}}=\text{CH}_2$ is :

(1) 2-Methyl-3-ethyl-1-pentene

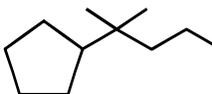
(2) 3-Ethyl-4-methyl-4-pentene

(3) 3-Ethyl-2-methyl-1-pentene

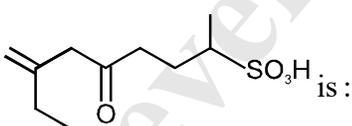
(4) 3-Methyl-2-ethyl-1-pentene

- Q.31 Which of the following name is wrong for $\text{CH}_2=\text{CHCH}_2\text{Cl}$?
 (1) Allyl chloride (2) 1-Chloroprop-3-ene
 (3) 3-Chloroprop-1-ene (4) 3-Chloropropylene

- Q.32 $\text{CH}_2=\text{CH}-$ is called as :
 (1) Isoethyl (2) Ethenyl (3) t-ethyl (4) Amyl

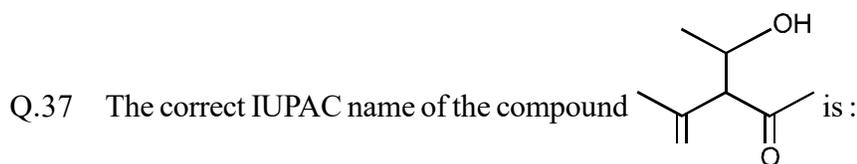
- Q.33 The correct IUPAC name of  is :
 (1) 1-Cyclopentyl-1, 1-dimethylbutane (2) 2-Cyclopentyl-2-methylpentane
 (3) 2-Methyl-2-cyclopropylpentane (4) 1, 1-Dimethyl-1-cyclopentylbutane

- Q.34 The IUPAC name of $\text{CH}_3-\underset{\text{OH}}{\text{CH}}-\text{CH}_2-\text{CH}_2-\text{CH}_2-\underset{\text{Br}}{\overset{\text{Br}}{\text{C}}}-\text{CH}_3$ is :
 (1) 6, 6-Dibromoheptan-2-ol (2) 2, 2-Dibromoheptan-6-ol
 (3) 6, 6-Dibromoheptan-2-al (4) None of these

- Q.35 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

- Q.36 The correct structure of 6-Amino-4-hydroxycyclohex-2-ene-1-sulphonic acid :

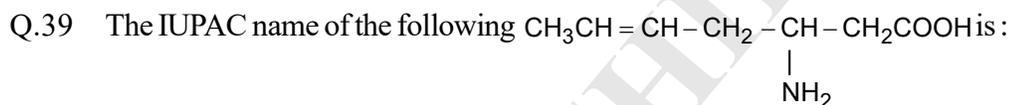




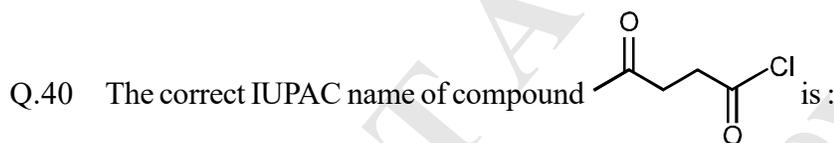
- (1) 3-(1-Methylethenyl)-4-hydroxypentan-2-one
- (2) 3-(1-Hydroxyethyl)-4-methylpent-4-en-2-one
- (3) 3-(1-Hydroxymethyl)-4-methylenepentan-2-one
- (4) 3-(1-Oxoethyl)-4-methylpent-4-en-2-ol.



- (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



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



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



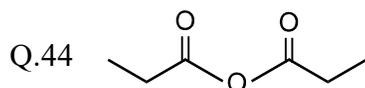
- (1) 1-Hydroxy-4-methylpentanoic acid
- (2) 1-Methyl-3-hydroxypentanoic acid
- (3) 4-Hydroxy-2-methylpentanoic acid
- (4) 4-Carboxypentanol-2.



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

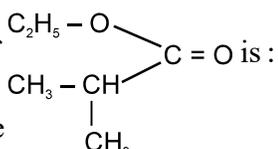


- (1) $\text{CH}_3\text{CH}_2\text{CH}_2\underset{\text{Cl}}{\text{CH}}\text{COOH}$ 2-Chloropentanoic acid
- (2) $\text{CH}_3\text{C}(\text{CH}_3)=\text{CHCOOH}$ 2-Methylhex-3-enoic acid
- (3) $\text{CH}_3\text{CH}_2\text{CH}=\text{CHCOCH}_3$ Hex-3-en-2-one
- (4) $\text{CH}_3-\underset{\text{CH}_3}{\text{CH}}\text{CH}_2\text{CH}_2\text{CHO}$ 4-Methylpentanal

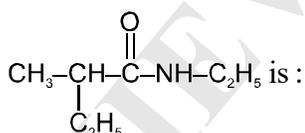


The IUPAC name of the compound is :

- (1) Propanoic anhydride (2) Dipropanoic anhydride
(3) Ethoxypropanoic acid (4) 1-Oxopropyl propanoate

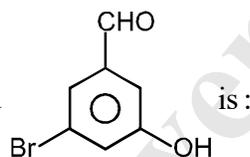
Q.45 The IUPAC name of  is :

- (1) Ethoxymethanone (2) Ethyl 2-methylpropanoate
(3) Ethoxypropanone (4) 2-Methylethoxypropanone

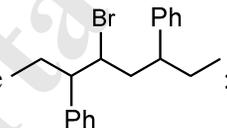
Q.46 The IUPAC name of the compound  is :

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

Q.47 The IUPAC name of the following compound



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

Q.48 Write the 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

ASSERTION AND REASON

Directions : Each of these questions contains an Assertion followed by reason. Read them carefully and answer the question on the basis of following options. You have to select the one that best describes the two statements.

- (1) If both assertion and reason are true and reason is the correct explanation of assertion.
- (2) If both assertion and reason are true but reason is not the correct explanation of assertion.
- (3) If Assertion is true but reason is false.
- (4) If both assertion and reason are false.

- Q.49 **Assertion :** 4-ethyl-3-bromo pentanoic acid is not the correct IUPAC name.
Reason : Selection of carbon chain in 3-bromo-4-ethyl pentanoic acid is not according to IUPAC rule.
- Q.50 **Assertion :** IUPAC name of $\text{H}_2\text{C}=\text{CH}-\text{CH}_2-\text{C}\equiv\text{CH}$ is pent-4-en-1-yne.
Reason : Alkene is preferred over alkyne when they are placed at same position.
- Q.51 **Assertion :** 3-Bromo-4-ethyl pentanoyl bromide is not the correct IUPAC name.
Reason : Selection of carbon chain in 3-Bromo-4-ethyl pentanoyl bromide is not according to IUPAC rule.
- Q.52 **Assertion :** Members of homologous series (Homologues) have same physical properties.
Reason : They have same functional group
- Q.53 **Assertion :** In ethene both the carbon atoms are secondary
Reason : Both the carbon atoms are bonded with double bond.