

IIT – ORGANIC CHEMISTRY
NOMENCLATURE & COMMON NAME
(EXERCISE – 1)

**Corporate Office: NAIVEDHYAM, Plot No. SP-11, Old INOX, Indra Vihar,
Kota (Raj.) 324005**

RESULTS OF BEST MENTORSHIP BY THE NUCLEUS TEAM



AIR-1
CHITRAANG MURDIA
Gen. Category - 2014



AIR-3
GOVIND LAHOTI
Gen. Category - 2014

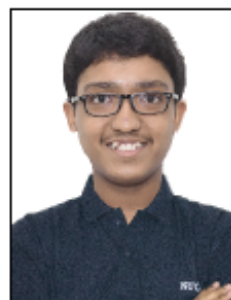


AIR-6
NISHIT AGARWAL
Gen. Category - 2012



AIR-8
AMEY GUPTA
Gen. Category - 2014

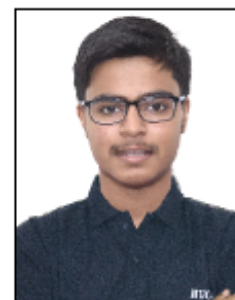
JEE MAIN RESULTS 2020 (January Attempt) OF NUCLEUS EDUCATION



100 Percentile
(Physics)
DAKSH KHANDELWAL
2020



100 Percentile
(Maths & Physics)
VAIBHAV SAHA
2020



100 Percentile
(Physics)
ANISH MOHAN
2020



100 Percentile
(Maths)
ARCHIT PATNAIK
2020



100 Percentile
(Maths)
SWAPNIL YASASVI
2020



100 Percentile
(Maths)
PARSHANT ARORA
2020

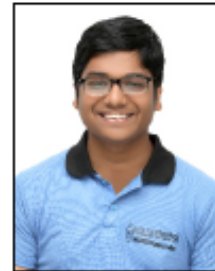
JEE ADVANCED RESULTS OF NUCLEUS EDUCATION



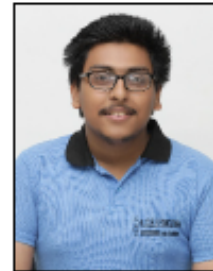
AIR-10
LAKSHAY SHARMA
Gen. Category - 2017



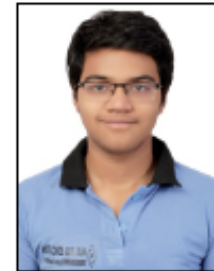
AIR-12
YATEESH AGRAWAL
Gen. Category - 2017



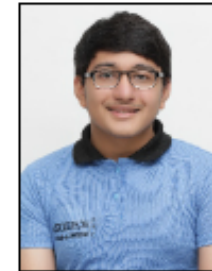
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ABHEY GOYAL
Gen. Category - 2017



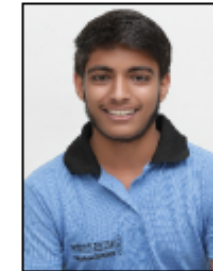
AIR-24
TUSHAR GAUTAM
Gen. Category - 2017



AIR-37
PIYUSH TIBAREWAL
Gen. Category - 2017



AIR-42
SATVIK
Gen. Category - 2017



AIR-66
MAYANK DUBEY
Gen. Category - 2017



AIR-98
HRITHIK
Gen. Category - 2017



AIR-20
SHASHANK AGRAWAL
Gen. Category - 2018



AIR-27
RAAGHAV RAAJ
Gen. Category - 2018



AIR-32
SHREYA PATHAK
Gen. Category - 2018



AIR-61
SIDDHANT CHOUDHARY
Gen. Category - 2018



AIR-67
ANISWAR S KRISHNAN
Gen. Category - 2018
DLP



AIR-78
AAYUSH KADAM
Gen. Category - 2018



AIR-61
SARTHAK BEHERA
Gen. Category - 2018
*SDCCP



AIR-91
ANDREWS G. VARGHESE
Gen. Category - 2018
*SDCCP



AIR-2
HIMANSHU GAURAV SINGH
Gen. Category - 2019
*SDCCP



AIR-19
VIBHAV AGGARWAL
Gen. Category - 2019



AIR-33
S. PRAJEETH
Gen. Category - 2019
*SDCCP



AIR-48
SOHAM MISTRI
Gen. Category - 2019
DLP



AIR-51
SAYANTAN DHAR
Gen. Category - 2019
DLP

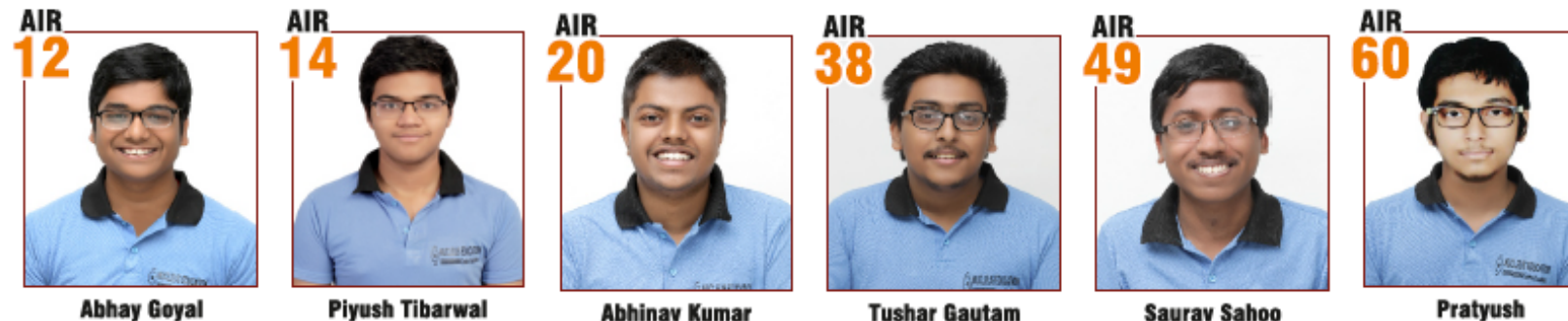


AIR-53
GAURAV KRISHAN GUPTA
Gen. Category - 2019
DLP

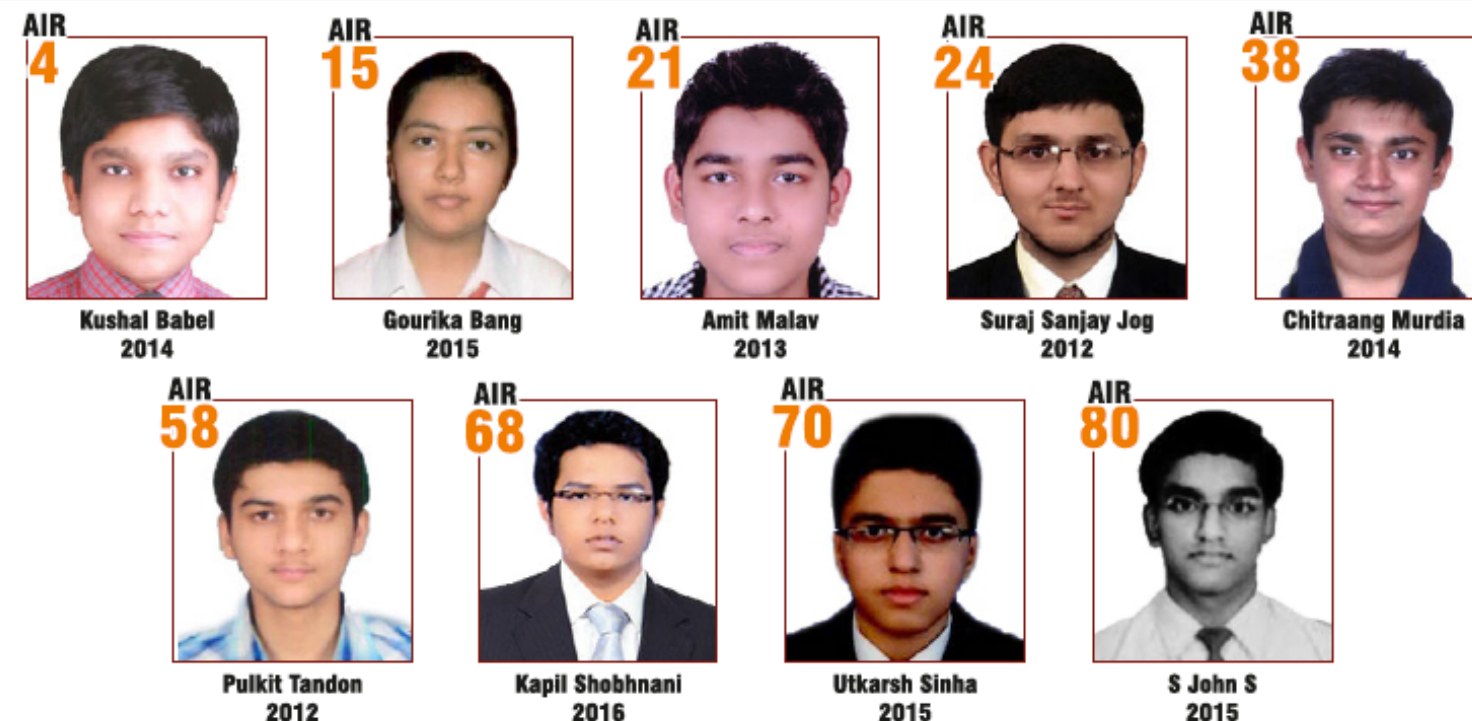


AIR-86
SATVIK JAIN
Gen. Category - 2019

Result Highlights 2017



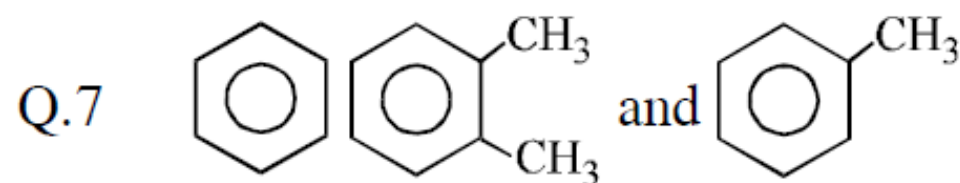
Mentored by Team



Exercise-I

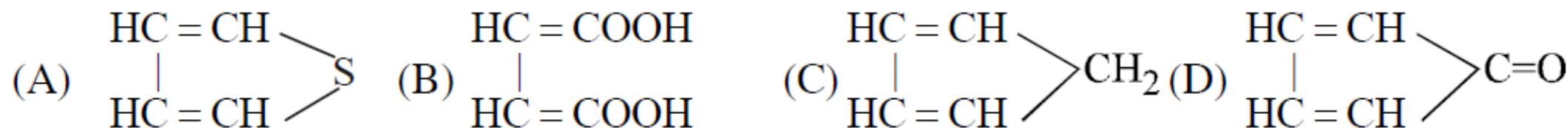
- Q.1 How many 1° carbon atom will be present in a simplest open chain hydrocarbon having two 3° and one 2° carbon atom?
(A) 3 (B) 4 (C) 5 (D) 6
- Q.2 Alicyclic compounds are
(A) Aromatic compounds (B) Aliphatic cyclic compounds
(C) Heterocyclic compounds (D) None of the above
- Q.3 How many 1° , 2° , 3° C atoms does 1, 3, 5-Trimethyl cyclohexane have?
(A) 3, 6, 0 (B) 3, 4, 2 (C) 0, 3, 6 (D) 3, 3, 3
- Q.4 The compound which has one isopropyl group is:
(A) 2,2,3,3-Tetramethyl pentane (B) 2,2-Dimethyl pentane
(C) 2,2,3-Trimethyl pentane (D) 2-Methyl pentane
- Q.5 Which of the following is the first member of ester homologous series?
(A) Ethyl ethanoate (B) Methyl ethanoate
(C) Methyl methanoate (D) Ethyl methanoate

- Q.6 A group closely related compounds which can be expressed by a general formula & in which two consecutive members differ by 14 in their molecular masses is called
- (A) a heterogeneous series (B) a homologous series
(C) a homogeneous series (D) a electrochemical series



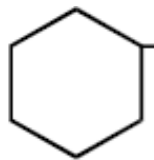
Number of secondary carbon atoms present in the above compounds are respectively:

- (A) 6,4,5 (B) 4,5,6 (C) 5,4,6 (D) 6,2,1
- Q.8 The molecular formula of the first member of the family of alkenynes and its name is given by the set
- (A) C_3H_6 , Alkene (B) C_5H_6 , Pent-1-en-3-yne
(C) C_6H_8 , Hex-1-en-5-yne (D) C_4H_4 , Butenyne
- Q.9 Which of the following is a heterocyclic compound

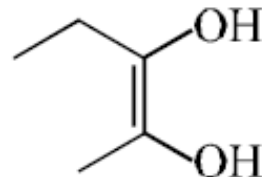


Q.10 The correct IUPAC name of the compound $\text{CH}_3 - \text{CH}_2 - \overset{\text{CH}_3}{\underset{\text{C}_2\text{H}_5}{\text{C}}} = \text{C} - \underset{\text{C}_2\text{H}_5}{\text{CH}} - \overset{\text{CH}_3}{\text{C}} - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$:

- (A) 5-Ethyl-3, 6-dimethyl non-3-ene (B) 5-Ethyl-4, 7-dimethyl non-3-ene
(C) 4-Methyl-5, 7-diethyl oct-2-ene (D) 2,4-Ethyl-5-methyl oct-2-ene

Q.11 The IUPAC name of  $\text{CH} = \text{CH} - \underset{\text{CH}_3}{\text{CH}} \text{CH}_2 \text{CH}_3$ is:

- (A) 1-Cyclohexyl-3-methylpent-1-ene (B) 3-Methyl-5-cyclohexylpent-1-ene
(C) 1-Cyclohexyl-3-ethylbut-1-ene (D) 1-Cyclohexyl-3,4-dimethyl-but-1-ene

Q.12 IUPAC name of  is:

- (A) But-2-ene-2,3-diol (B) Pent-2-ene-2,3-diol
(C) 2-Methylbut-2-ene-2,3-diol (D) Pent-3-ene-3,4-diol

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

(A) Ethenenitrile

(B) Vinyl cyanide

(C) Cyono ethene

(D) Prop-2-enenitrile

Q.14 The IUPAC name of $\text{CH}_3\text{CH}_2-\underset{\text{CH}_3}{\text{N}}-\text{CH}_2\text{CH}_3$ is:

(A) N-Methyl-N-ethyl ethanamine

(B) Diethyl methanamine

(C) N-Ethyl-N-methyl ethanamine

(D) Methyl diethyl ethanamine

Q.15 The IUPAC name of acetyl acetone is:

(A) Pentane-2,5- dione

(B) Pentane -2,4-dione

(C) Hexane-2,4-dione

(D) Butane-2,4-dione

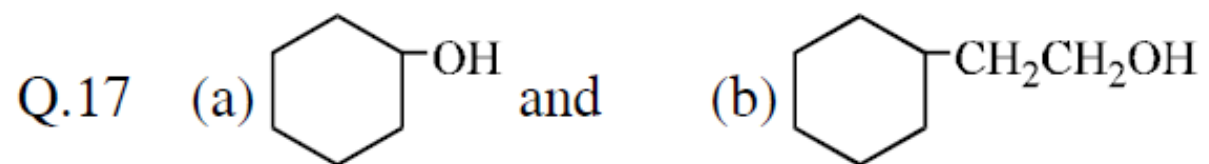
Q.16 When vinyl & allyl are joined each other, we get

(A) Conjugated alkadiene

(B) cumulative alkadiene

(C) Isolated alkadiene

(D) Allenes



True statement for the above compounds is:

- (A) (a) is phenol while (b) is alcohol (B) Both (a) and (b) are primary alcohol
(C) (a) is primary and (b) is secondary alcohol (D) (a) is secondary and (b) is primary alcohol

Q.18 The IUPAC name of the following structure $(\text{CH}_3)\text{C}.\text{C}.\text{C}.\text{C}(\text{CH}_3)\text{CH}(\text{CH}_3)$ is:

- (A) 3-Methylhex-4-yn-2-ene (B) 3-Methylhex-2-en-4-yne
(C) 4-Methylhex-4-en-4-yne (D) all are correct

Q.19 The IUPAC name of the following structure is $[\text{CH}_3\text{CH}(\text{CH}_3)]_2 \text{C}(\text{CH}_2\text{CH}_3)\text{C}(\text{CH}_3) \text{C}(\text{CH}_2\text{CH}_3)_2$

- (A) 3,5-Diethyl-4,6-dimethyl-5-[1-methylethyl]hept-3-ene
(B) 3,5-Diethyl-5-isopropyl-4,6-dimethylhept-2-ene
(C) 3,5-Diethyl-5-propyl-4,6-dimethylhept-3-ene
(D) None of these

Q.20 The correct IUPAC name of $\text{CH}_3 - \text{CH}_2 - \underset{\text{CH}_2}{\overset{\parallel}{\text{C}}} - \text{COOH}$ is:

- (A) 2-Methyl butanoic acid (B) 2-Ethylprop-2-enoic acid
(C) 2-Carboxybutene (D) None of the above

Q.21 The correct IUPAC name of 2-ethylpent-3-yne is:

- (A) 3-Methyl hex-4-yne (B) 4-Ethyl pent-2-yne
(C) 4-methyl hex-2 yne (D) None of these

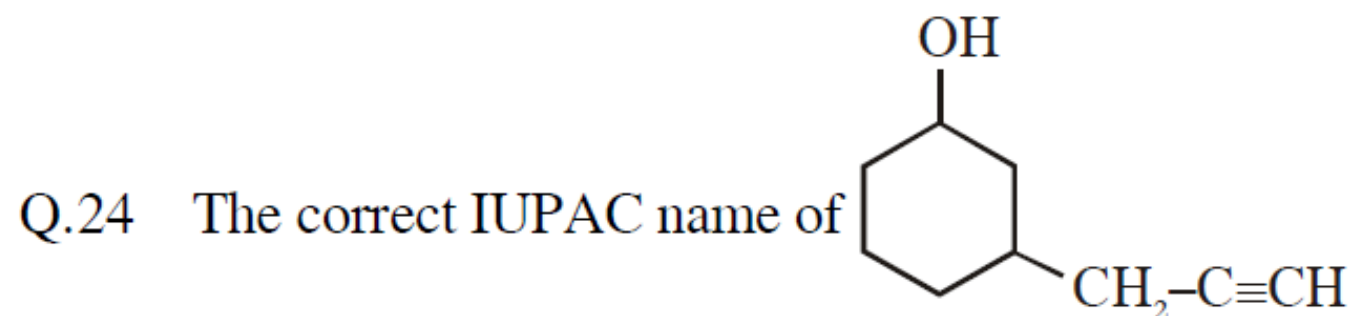
Q.22 All the following IUPAC names are correct except:

- (A) 1-Chloro-1-ethoxy propane (B) 1-Amino-1-ethoxypropane
(C) 1-Ethoxy-2-propanol (D) 1-Ethoxy-1-propanamine

Q.23 The IUPAC name of the compound $\text{CH}_3\text{CH} = \text{CHCH} = \text{CHC} \equiv \text{CCH}_3$ is:

- (A) Octa-4,6-diene-2-yne (B) Octa-2,4-diene-6-yne
(C) Oct-2-yne-4,6-diene (D) Oct-6-yne-2,4-diene

Exercise-2



- (A) 3-Cyclohexanol Propyne (B) 3-[3-Hydroxy Cyclohexyl] Propyne
(C) 3-Propynyl Cyclohexanol (D) 3-(2-propynyl) Cyclohexanol

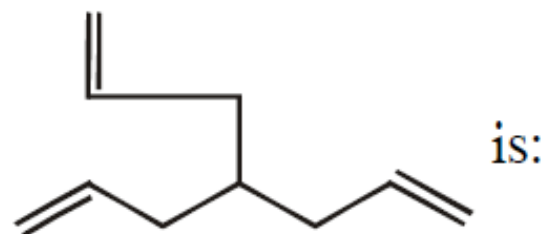
Q.25 The IUPAC name of β -ethoxy- α -hydroxy propionic acid (trivial name) is:

- (A) 1,2-Dihydroxy-1-oxo-3-ethoxy propane (B) 1-Carboxy-2-ethoxy ethanol
(C) 3-Ethoxy-2-hydroxy propanoic acid (D) All above

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

- (A) $-\text{C}\equiv\text{C}-$ (B) $-\text{OH}$ (C) $-\text{C}-$
 \parallel
 O (D) $-\text{C}-\text{H}$
 \parallel
 O

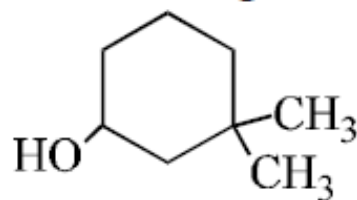
Q.27 The IUPAC name of the compound



is:

- (A) 4-Pro-1-enyl hepta-1,6-diene
- (B) 4-Propylidene hepta-1,6-diene
- (C) 4-Propenyl hepta-1,6-diene
- (D) 4-Prop-2-enyl hepta-1,6-diene

Q.28 The IUPAC name of the given compound is:



- | | |
|--|--|
| (A) 1,1-Dimethyl-3-hydroxy cyclohexane | (B) 3,3-Dimethyl-1-hydroxy cyclohexane |
| (C) 3,3-Dimethylcyclohexanol | (D) 1,1-Dimethylcyclohexan-3-ol |

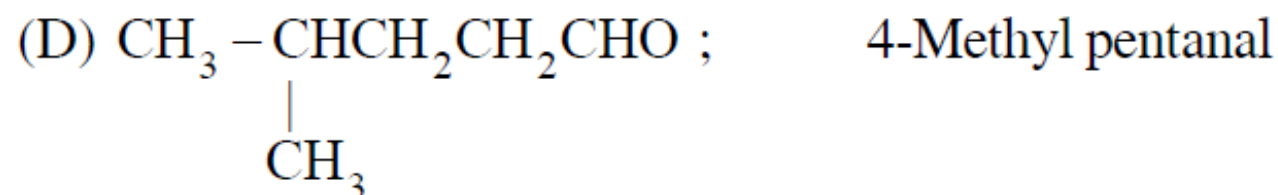
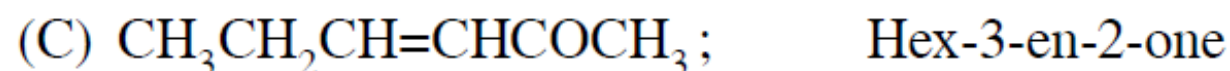
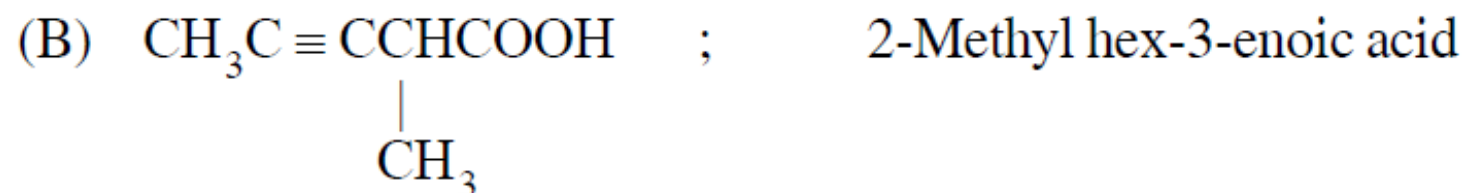
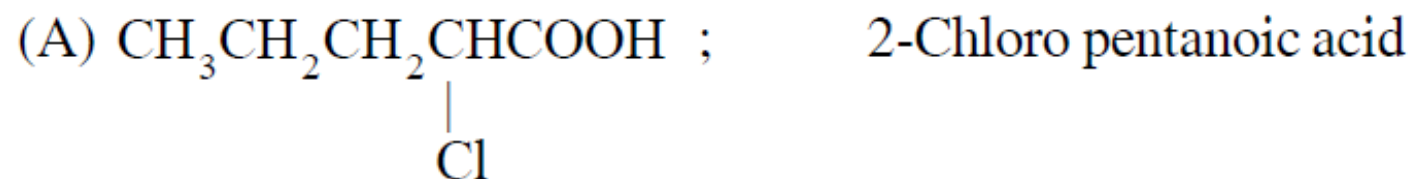
Q.29 The IUPAC name of $(\text{C}_2\text{H}_5)_2\text{NCH}_2\underset{\text{Cl}}{\text{CH}}\text{COOH}$ is:

- (A) 2-Chloro-4-N-ethylpentanoic acid (B) 2-Chloro-3-(N,N-diethyl amino)-propanoic acid
 (C) 2-Chloro-2-oxo diethylamine (D) 2-Chloro-2-carboxy-N-ethyl ethane

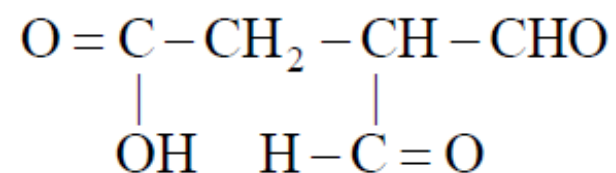
Q.30 The IUPAC name of the compound is $\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \overset{\text{Ph}}{\text{CH}} - \text{NH}_2$

- (A) 1-Amino-1-phenyl-2-methyl propane (B) 2-Methyl-1-phenyl propan-1-amine
 (C) 2-Methyl-1-amino-1-phenyl propane (D) 1-Isopropyl-1-phenyl methyl amine

Q.31 Which of the following compound is wrongly named?



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



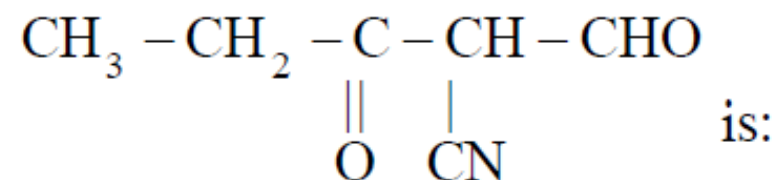
(A) 3,3-Diformylpropanoic acid

(B) 3-Formyl-4-oxo-butanoic acid

(C) 3,3-Dioxo propanoic acid

(D) 3,3-Dicarbaldehyde propanoic acid

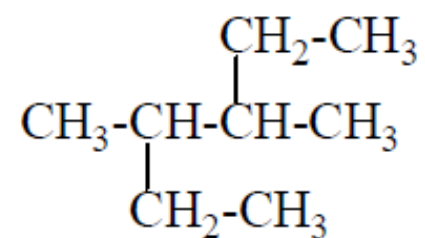
Q.33 The correct IUPAC name of compound:



- (A) 2-Cyano-3-oxopentanal
(C) 2-Cyanopentane-1,3-dione

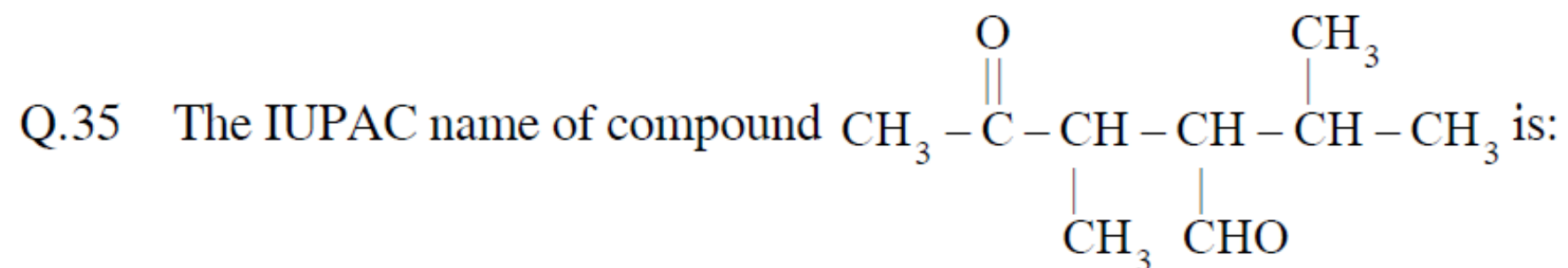
- (B) 2-Formyl-3-oxopentanenitrile
(D) 1,3-Dioxo-2-cyanopentane

Q.34 IUPAC name of compound

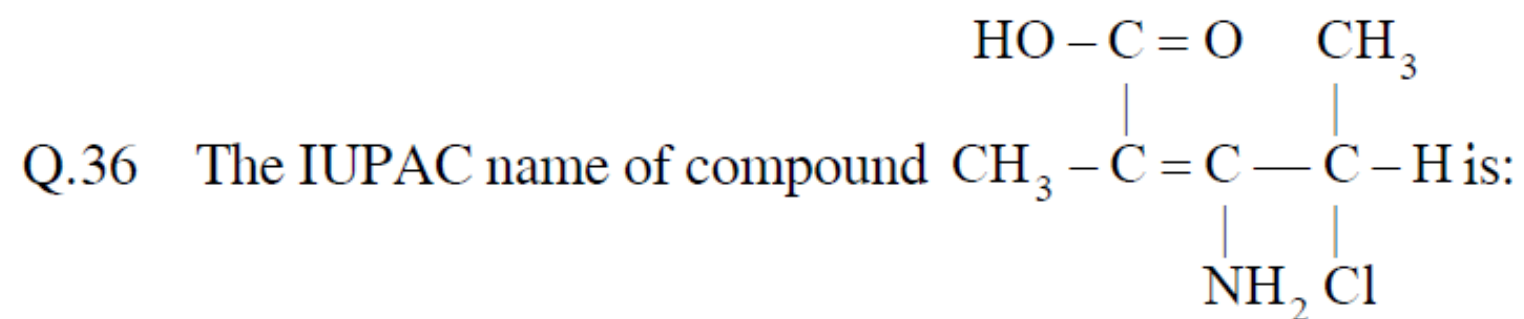


- (A) 2, 3-diethyl butane
(C) 3-methyl-2-ethyl pentane

- (B) 2-ethyl-3-methyl pentane
(D) 3,4-dimethyl hexane

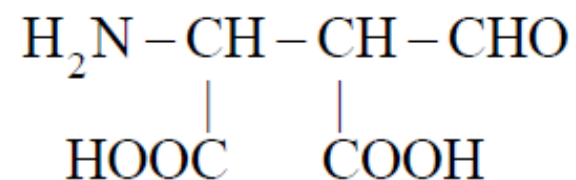


- (A) 3,5-Dimethyl-4-Formyl pentanone (B) 1-Isopropyl-2-methyl-4-oxo butanal
(C) 2-Isopropyl-3-methyl-4-oxo pentanal (D) None of the above



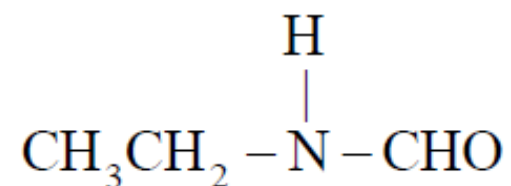
- (A) 2-Amino-3-chloro-2-methylpent-2-enoic acid
(B) 3-Amino-4-chloro-2-methylpent-2-enoic acid
(C) 4-Amino-3-chloro-2-methylpent-2-enoic acid
(D) All of the above

Q.37 The IUPAC name of the structure is:



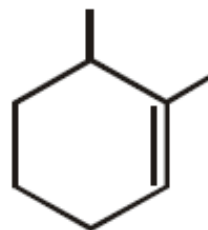
- (A) 3-Amino-2-formyl butane-1, 4-dioic acid
- (B) 3-Amino-2, 3-dicarboxy propanal
- (C) 2-Amino-3-formyl butane-1, 4-dioic acid
- (D) 1-Amino-2-formyl succinic acid

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



- | | |
|--------------------------|--------------------------|
| (A) N-Formyl aminoethane | (B) N-Ethyl formyl amine |
| (C) N-Ethyl methanamide | (D) Ethylamino methanal |

Q.39 The IUPAC name of the structure is:



(A) 1,2-Dimethyl-Cyclohexane

(B) 1,6-Dimethyl-Cyclohexene

(C) 1,2-Dimethyl-Cyclohex-2-ene

(D) 2,3-Dimethyl-Cyclohexane

Q.40 The IUPAC name of $\text{C}_6\text{H}_5\text{CH}=\text{CH}-\text{COOH}$ is:

(A) Cinnamic acid

(B) 1-Phenyl-2-carboxy ethane

(C) 3-Phenyl prop-2-enoic acid

(D) Dihydroxy-3-phenyl propionic acid

Q.41 The IUPAC name of $\text{BrCH}_2-\text{CH}-\text{CO}-\text{CH}_2-\text{CH}_2\text{CH}_3$ is:

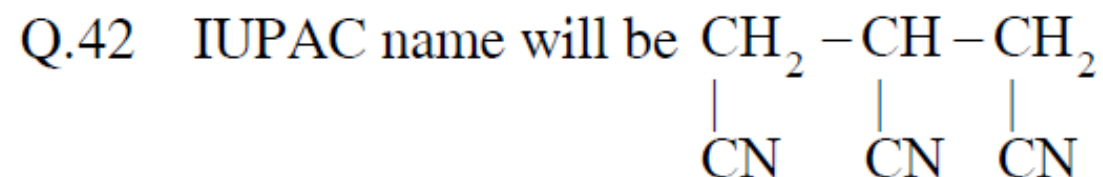


(A) 2-Bromomethyl-3-oxohexanamide

(B) 1-Bromo-2-amino-3-oxohexane

(C) 1-Bromo-2-amino-n-propyl ketone

(D) 3-Bromo-2-propyl propanamide

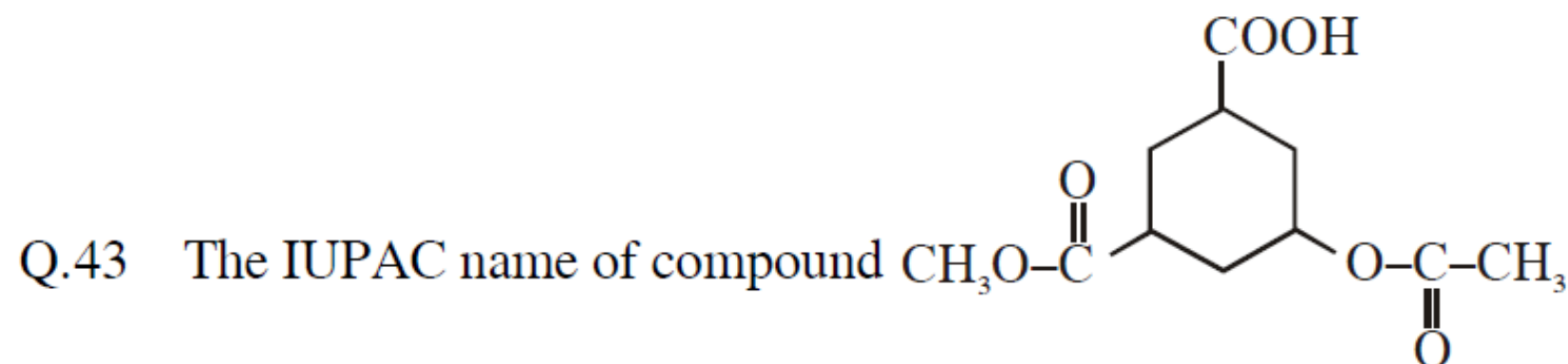


(A) 1,2,3-Tricyano propane

(C) 1,2,3-Cyano propane

(B) Propane-1,2,3- trinitrile

(D) Propane-1,2,3-tricarbonitrile



(A) 3-Carbonyl methoxy -5- Ethanoyl oxy cyclohexanic acid

(B) 3-Ethanoyl oxy -5- Methoxy carbonyl cyclohexane carboxylic acid

(C) 5-Ethanoyl oxy -5- Methoxy carbonyl cyclohexanoic acid

(D) 3-Methoxy carbonyl -5- Ethanoyl oxy cyclohexane carboxylic acid

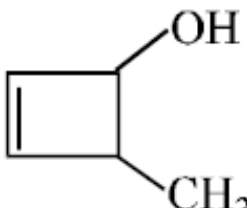
Q.44 The IUPAC name of $\text{CH}_3 - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{O} - \text{CH}_2 - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{OH}$ is:

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

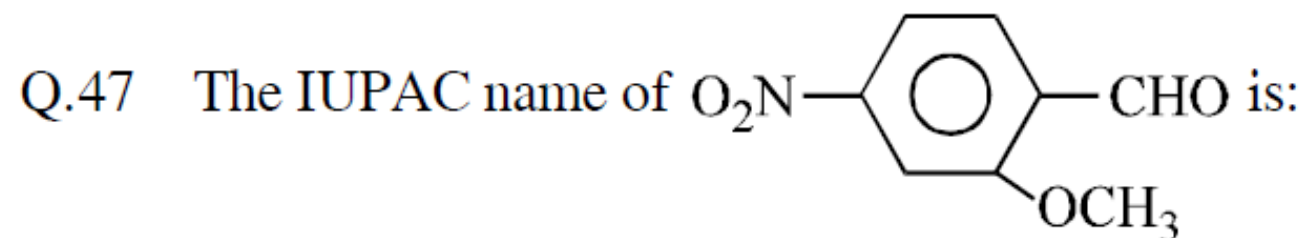
Q.45 $\text{CH}_3 - \text{O} - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{CH}_2 - \text{COOH}$

The correct IUPAC systematic name of the above compound is:

- (A) 2-Acetoxy ethanoic acid
(B) 2-Methoxy carbonyl ethanoic acid
(C) 3-Methoxy formyl ethanoic acid
(D) 2-Methoxy formyl acetic acid

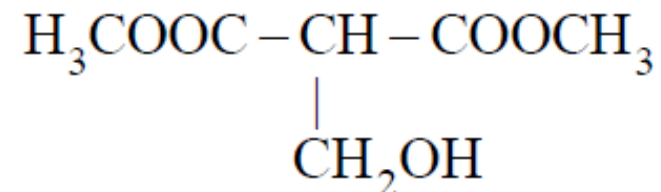
Q.46 The IUPAC name of  is

- (A) 3-Methyl cyclobut-1-ene-2-ol
(B) 4-Methyl cyclobut-2-ene-1-ol
(C) 4-Methyl cyclobut-1-ene-3-ol
(D) 2-Methyl cyclobut-3-ene-1-ol

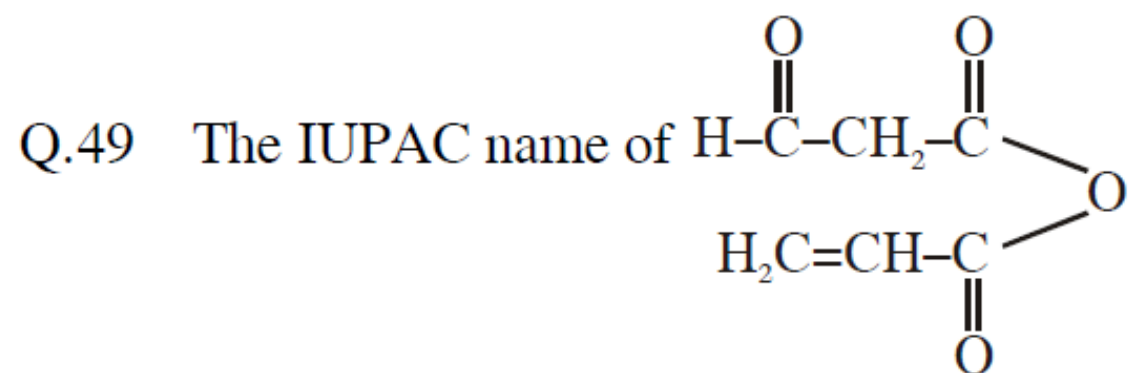


- (A) 2-Methoxy-4-nitro benzaldehyde (B) 4-Nitro anisaldehyde
(C) 3-Methoxy-4-formyl nitro benzene (D) 2-Formyl-4-nitro anisole

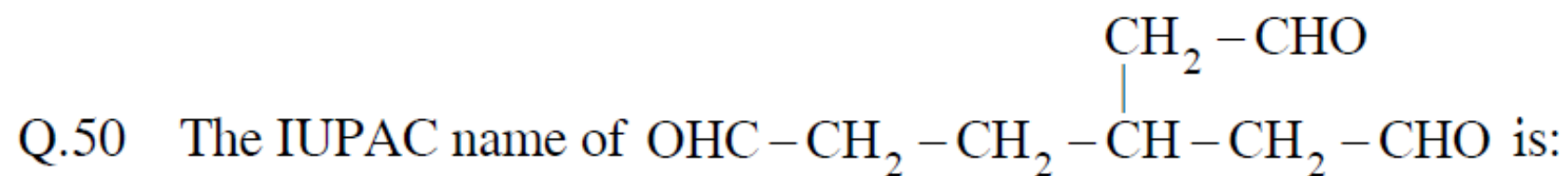
Q.48 The IUPAC name of compound



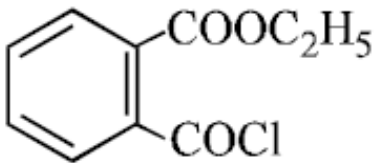
- (A) 2-(Hydroxy methyl) methyl propanedioate
(B) Methyl-2-(hydroxy methyl) propanedioate
(C) 2-(Hydroxy methyl) dimethyl propanedioate
(D) None of these



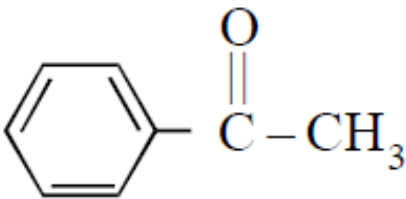
- (A) 2-Formyl ethanoic propanoic Anhydride
- (B) 2-Oxo-propanoic prop-2-enoic Anhydride
- (C) Prop-2-enoic-2-formyl propanoic Anhydride
- (D) 2-Formyl ethanoic prop-2-enoic Anhydride



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

Q.51 The IUPAC name of  is:

- (A) 2-Chlorocarbonyl ethylbenzoate (B) 2-Carboxyethyl benzoyl chloride
(C) Ethyl-2-(chlorocarbonyl)benzoate (D) Ethyl-1-(chlorocarbonyl)benzoate

Q.52 The IUPAC name of  is:

- (A) Phenyl ethanone (B) Methyl phenyl ketone
(C) Acetophenone (D) Phenyl methyl ketone

Q.53 Structural formula of isopropyl methanoate is:

- (A) $\text{CH}_3 - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{O} - \underset{\text{CH}_3}{\underset{|}{\text{CH}}} - \text{CH}_3$ (B) $\text{H} - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{O} - \text{CH}_2 - \underset{\text{CH}_3}{\underset{|}{\text{CH}}} - \text{CH}_3$
(C) $\text{CH}_3 - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{O} - \text{CH}_2 - \underset{\text{CH}_3}{\underset{|}{\text{CH}_2}}$ (D) $\text{H} - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{O} - \underset{\text{CH}_3}{\underset{|}{\text{CH}}} - \text{CH}_3$

Result JEE Main

Result Highlights 2019



100 Percentile
HIMANSHU GAURAV SINGH
2019 (*SDCCP)



99.99 Percentile
GAURAV KRISHAN GUPTA
2020 (DLP)



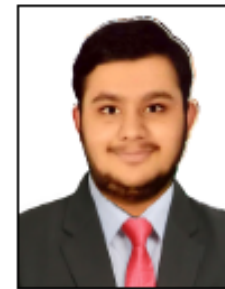
99.98 Percentile
SARTHAK ROUT
2020 (CCP)



99.98 Percentile
VIBHAV AGGARWAL
2019 (JCP)



99.97 Percentile
RITVIK GUPTA
2020 (DLP)



99.97 Percentile
BHAVYA JAIN
2020 (CCP)



99.96 Percentile
AYUSH PATTNAIK
2019 (JCP)



99.96 Percentile
SAYANTAN DHAR
2020 (DLP)

Result Highlights 2018



Sarthak Behera



Shashank Agrawal



Shreya Pathak



Raaghav Raaj

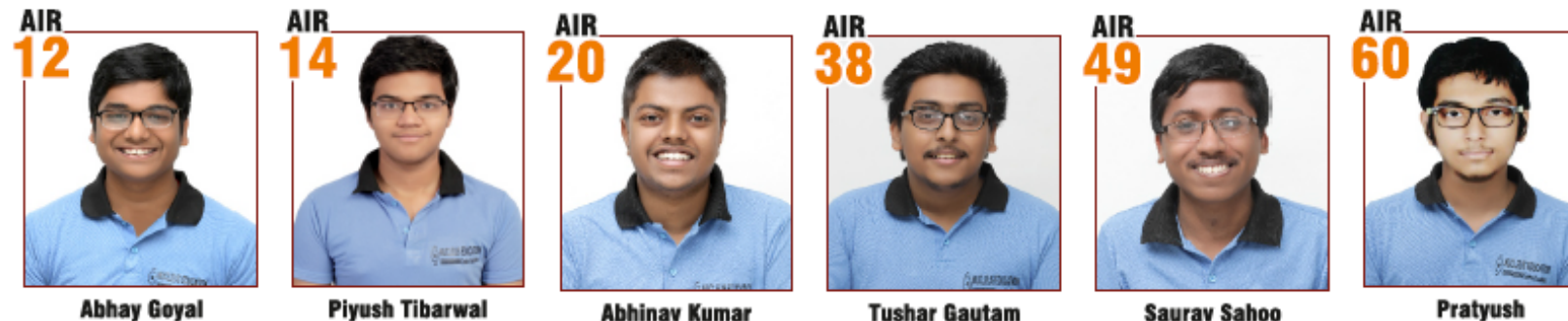


Aayush Kadam



Gunjan

Result Highlights 2017



Mentored by Team

