



@totalediting6804 2 hours ago (edited)

Sir mujhe set C mila paper hard tha but jo aapne bola tha vo bhi aaya tha. Sir grace marking hogi kya

Translate to English



1 Reply

✓ 1 reply



@Xenoxspidey 3 hours ago

Sir set C main ek bhi question nhi aya jo aapne karwaya tha lol😂

Translate to English



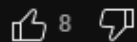
1 Reply



@Deadline_Gaming 17 hours ago

Sir ak bhi question nehi aya apne jo karaya tha, idk why everyone is saying same to same aya 🙄🙄🙄🙄🙄🙄

Translate to English



8 Reply

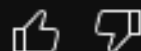
✓ 14 replies



@Kriti2052 17 hours ago (edited)

Sir question marks distribution ke according nhi tha sir Aisa kyu tha

Translate to English



Reply



@Zebakhanam2807 16 hours ago

Thank u so much sir apne jo padhaya wahi aya exam me easy the paper thoda time manage karne me problem ho rhi thi easy tha paper thank u sir bhot ache se apne concept clear kareaye aur questions bhi practice karwaye ❤️ ❤️ ❤️ ❤️ ❤️ #Manishbhaiyaop

Translate to English



@KishanGiri-z1o 16 hours ago

Sir bs ek question nahi aata tha what is fuel cell 3 marks ka aaya tha 😞
Bt sir isko chord ke sb kuch aata tha sab aaka smjaaya hua tha ❤️ ❤️ ❤️ ❤️ ❤️ thanks a lot sir....
Sir aapki hi wajah se mai chemistry me itte acche marks score kr paae thanku sir ❤️ ❤️ ❤️ ❤️ ❤️

Translate to English



@Ritwik5911 12 hours ago

Thanku sir aapne jo jo questions btaye the vo aaye the pr thode bht aaye the...
Thanku sir ❤️

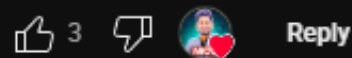
Translate to English



@swatiswayamshree8621 16 hours ago

Thank you soo much sir apne Jo bhi classes liye the unme se questions aye the including mcqs
❤️ ✨

Translate to English





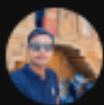
@RIYAGAMER-k7e 16 hours ago

SIR CHEMISTRY FOD AAYE :: SIR CHEMISTRY FOD AAYE :: SIR CHEMISTRY FOD AAYE SIR CHEMISTRY FOD AAYE

[Translate to English](#)



Reply



@MANISH68446 16 hours ago

Thank you so much, Manish Sir! Your teaching really helped me in the exam today. The paper went great because of your support! ❤️😊



1



Reply



• 1 reply



@IfraimranMulla 17 hours ago

Sir thank you soo much sir ❤️

Aaj jitna bhi likh saki hu sir wo aapki mehnat ki wajah se hi likh pai hu Sir 😊😊

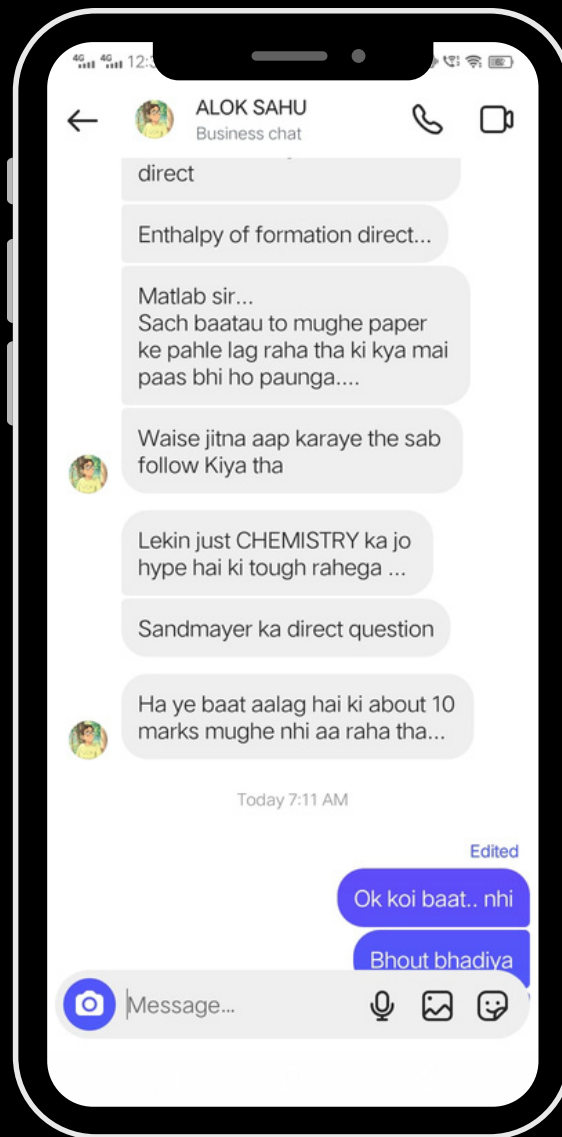
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1



Reply



Pinned Message

Wishing you the best of luck on your exams!...



Chemistry 12th By Manish Sir (20...

Ek baar question paper bhaij do s...

Ok

5:57 PM

MANISH

Love you sir 1 question
chhoda bad sab right karke
aaya hu ❤️❤️ B set se

5:58 PM

Chemistry 12th By Manish Sir (2025) Admin
Question paper bhaijo

5:58 PM ✓✓

Chemistry 12th By Manish Sir (2025) Admin
Jaldi pdf bana ke

5:58 PM ✓✓

! Not an official account

April 23

Thank you sir paper thik thak thaa bas
time kam mila humko 2 45 pe diya
aur bich mein kuch reason ke wajah
se rok bhi diya 10 15 min ke liye au 5
30 ko hi le gaye paper

Thank you soo much sir apne Jo
bhi classes liye the unme se kafi
questions aye the including mcqs



7:00 PM

Set C

2. The hydrolysis of ethylene ozonide gives

(A) formaldehyde

(B) acetaldehyde

(C) acetone

(D) ethene

1

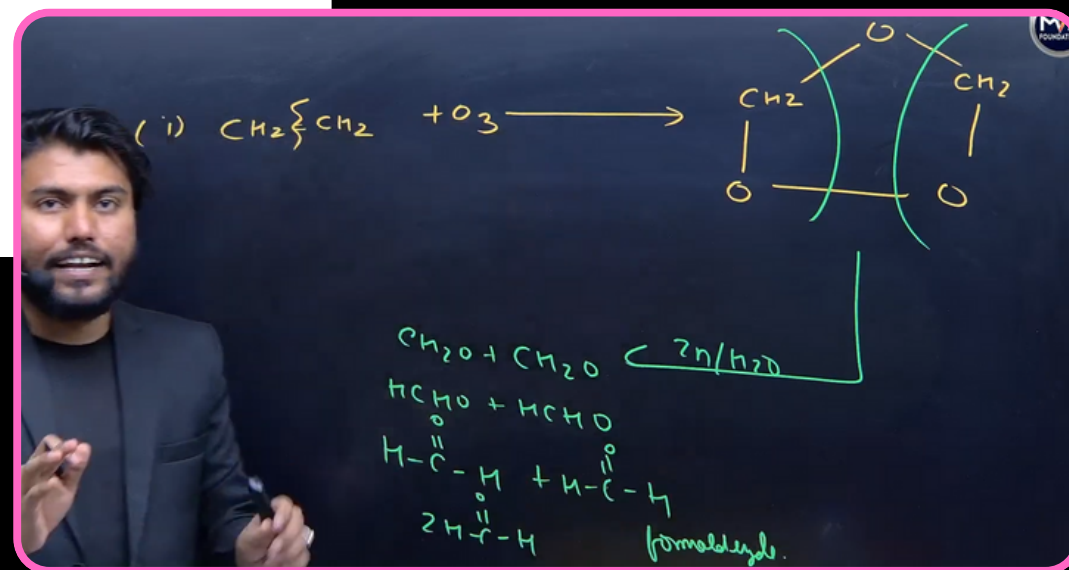
एथीलीन ओजोनाइड का जल-अपघटन देता है

(A) फॉर्मलिडहाइड

(B) ऐसीटैलिडहाइड

(C) ऐसीटोन

(D) एथीन



03:20:23 minute 3rd marthon

3. Outer orbital complex formation involves

- (A) sp^3d^2 hybridization (B) d^2sp^3 hybridization
(C) sp^3 hybridization (D) dsp^2 hybridization

बाह्य कक्षक संकुल निर्माण में निहित है

- (A) sp^3d^2 संकरण (B) d^2sp^3 संकरण
(C) sp^3 संकरण (D) dsp^2 संकरण

VALENCE BOND THEORY

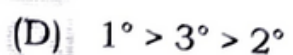
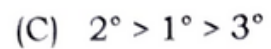
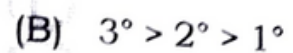
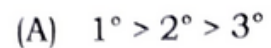
The basic idea is to overlap half-filled valence orbitals to form covalent bonds in which the two electrons are shared between the bonding atoms. These orbitals can either be atomic orbitals, or hybridized atomic orbitals.

- a) Hybridization of valance orbitals of the central metal/ ion
b) Bonding between ligand and the metal ion/atom.
c) Relation between the type of bond and the observed geometry

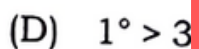
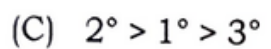
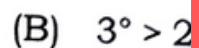
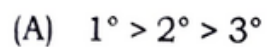
Complex geometry can be linked to the main orbital hybridization process.

Coordination number	Geometry	Hybrid orbitals
2	linear	sp
4	Tetrahedral	sp^3
4	Square planer	dsp^2
6	Octahedral	d^2sp^3 or sp^3d^2

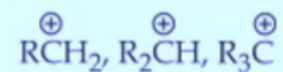
5. The correct order of stability of 1° , 2° and 3° carbocations is



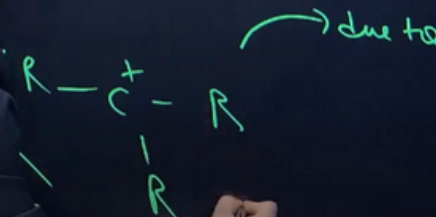
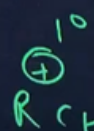
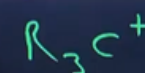
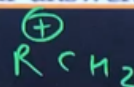
1° , 2° और 3° कार्बोधनायनों के स्थायित्व का सही क्रम है



(a) Arrange the following in order of their increasing stability :



Justify your answer.



9. The law of multiple proportions is applicable for
- (A) two elements forming more than one compound
 - (B) a compound involving at least three elements
 - (C) one element forming more than one type of molecule
 - (D) two elements forming one compound

law of multiple proportions:
The law states that when two elements form more than one compound, the masses of one element in these compound for a fixed mass of the other element are in the ratio of small whole numbers.

Sr. No.	Combining elements	Ratio of masses
1	O	2
2	O	32

$H_2O \rightarrow H_2O$
 $H_2O \rightarrow H_2O_2$

DALTON'S ATOMIC THEORY:

1. Matter consists of indivisible atoms.
2. All the atoms of a given chemical element have the same chemical and physical properties.
3. Different chemical elements have different masses. Atoms of different elements have different masses.

Tritium is represented as ${}^3_1\text{H}$. It contains

- (A) one electron, one neutron, one proton
- (B) three electrons, one proton
- (C) one proton, one electron, two neutrons
- (D) one neutron, two protons

ट्रिटियम को ${}^3_1\text{H}$ के रूप में दर्शाया जाता है। इसमें है

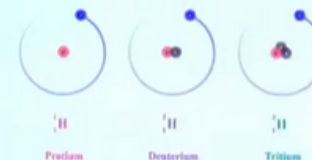
- (A) एक इलेक्ट्रॉन, एक न्यूट्रॉन, एक प्रोटॉन
- (B) तीन इलेक्ट्रॉन, एक प्रोटॉन
- (C) एक प्रोटॉन, एक इलेक्ट्रॉन, दो न्यूट्रॉन
- (D) एक न्यूट्रॉन, दो प्रोटॉन

capsule class

ATOMIC NUMBER, MASS NUMBER, ISOTOPES AND ISOBARS:

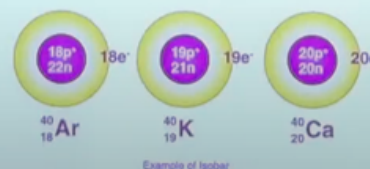
ISOTOPES:

Isotopes are atoms of the same element that have the same number of protons (i.e., atomic number) but a different number of neutrons, meaning that their mass number, "A", varies.



ISOBARS:

Isobars are those elements that have a different atomic number but the same mass number.



14. The pair of complexes which shows linkage isomerism is

- (A) $[\text{Co}(\text{NH}_3)_5\text{Br}]\text{SO}_4$ and $[\text{Co}(\text{NH}_3)_5\text{SO}_4]\text{Br}$
(B) $[\text{Co}(\text{NH}_3)_5\text{SCN}]^{2+}$ and $[\text{Co}(\text{NH}_3)_5\text{NCS}]^{2+}$
(C) $[\text{Co}(\text{NH}_3)_6]^{3+}$ and $[\text{Cr}(\text{C}_2\text{O}_4)_3]^{3-}$
(D) $[\text{Cr}(\text{H}_2\text{O})_5\text{Cl}]\text{Cl}_2 \cdot \text{H}_2\text{O}$ and $[\text{Cr}(\text{H}_2\text{O})_4\text{Cl}_2]\text{Cl} \cdot 2\text{H}_2\text{O}$

1

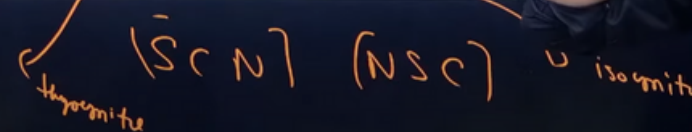
संकुलों का वह युग्म, जो बंधनी समावयवता दर्शाता है,

Coordination isomerism

Coordination isomerism, when cation and anion both are complexes.
e.g. $[\text{Co}(\text{NH}_3)_6]^{3+} [\text{Cr}(\text{C}_2\text{O}_4)_3]^{3-}$ and $[\text{Cr}(\text{NH}_3)_6]^{3+} [\text{Co}(\text{C}_2\text{O}_4)_3]^{3-}$.

Linkage Isomerism:

Linkage Isomerism: Complexes in which linkages of ligand is different.
for example $[\text{Co}(\text{NH}_3)_5\text{SCN}]^{2+}$ and $[\text{Co}(\text{NH}_3)_5\text{NCS}]^{2+}$.



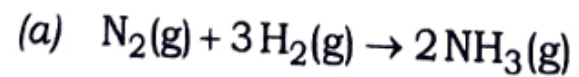
1:37:18 / 2:36:00

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17. Complete the following choosing from the given options :

(34, 28, 17, H_3O^+ , H_2O , H_2O_4)



In the above reaction, _____ g of NH_3 is produced.

(b) The empirical formula of H_2O is _____.

The video frame shows a person writing on a chalkboard. The board contains the following text:

$2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$

$\frac{1.5}{2} = \frac{n_{\text{H}_2\text{O}}}{2}$

$n_{\text{H}_2\text{O}} = 1.5$

$m = 1.5 \times 18$

$m = 27\text{g}$

On the right side of the board, there is a vertical line and the text:

$\text{H}_2\text{O} = 2 + 16$

$= 18$

$n =$

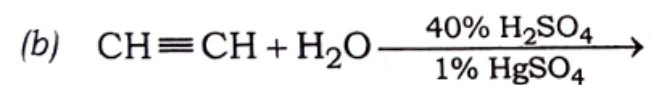
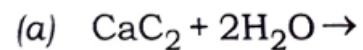
At the bottom of the video frame, there is a progress bar and the text:

34:37 / 2:01:05

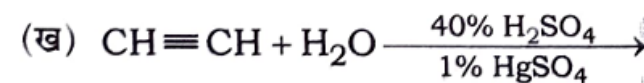
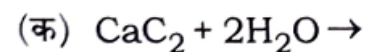
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Complete and balance the following reactions :

$$1 \times 2 = 2$$



निम्नलिखित अभिक्रियाओं को पूर्ण एवं संतुलित कीजिए :



$\text{CaC}_2 + 2\text{H}_2\text{O} \rightarrow \text{HC} \equiv \text{CH} + \text{Ca}(\text{OH})_2$

ethyne.

1:26:32 / 2:43:05

Manish Verma Official

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Thanks

NIOS Class 12th Chemistry Most Important Questions with Answer | Tandav Batch Day 6th

planes perpendicular to each other and also to the direction of propagation.

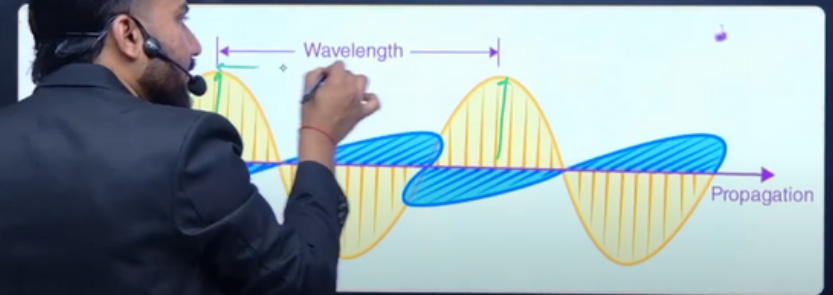
- (a) Depict the amplitude and wavelength (λ) of an electromagnetic wave in the form of a diagram.
- (b) Define a photon. Give its mathematical expression.

Key Difference:

- Quantum is a general term referring to the smallest discrete unit of any property (energy, charge, etc.).
- Photon is a specific quantum of electromagnetic radiation (light energy).

ELECTROMAGNETIC RADIATIONS:

Electromagnetic radiation is a form of energy that propagates as both electrical and magnetic waves traveling in packets of energy called photons. There is a spectrum of electromagnetic radiation with different wavelengths and frequency, which in turn imparts different characteristics.



Match the items in Column—I with Column—II :

Column—I

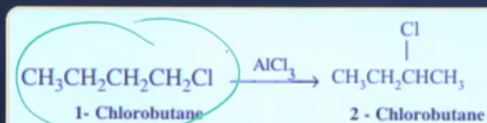
- (a) Groups with -I effect
- (b) Groups with +I effect
- (c) Dehydrating agent
- (d) Molecular rearrangements

Column—II

- (i) $-\text{CH}_3$, $-\text{H}$, $(\text{CH}_3)_3\text{C}-$
- (ii) Presence of aluminium chloride/ AlCl_3
- (iii) $-\text{NO}_2$, $-\text{CN}$, $-\text{OH}$
- (iv) conc. sulphuric acid/ H_2SO_4

Molecular Rearrangements

A molecular rearrangement proceeds with a fundamental change in the hydrocarbon skeleton of the molecule. During this reaction, an atom or group migrates from one position to another.



Electrophiles	Nucleophiles
They are electron deficient species	They are electron rich species
They accept an electron pair	They donate an electron pair
They are also called as Lewis acids	They are also called as Lewis bases
They are positively charged or neutral species with vacant orbitals	They are negatively charged or neutral species with lone pair of electrons
They take part in electrophilic addition and electrophilic substitution reactions.	They take part in nucleophilic addition and nucleophilic substitution reactions.

eg H^+ , N^+ , O_2^+ , Br^+ , Cl^+ , Ag^+ , CH_3^+ , CO^+ , BF_3 etc.

eg OH^- , $-\text{NO}_2$, H_2O , NH_3 , CN^- , I^- , Br^- , Cl^- , F^- , S^{2-} , O^{2-} , CO_3^{2-} , HCO_3^- , H_2PO_4^- , HPO_4^{2-} , H_2PO_3^- , HPO_3^{2-} , $\text{H}_2\text{P}_2\text{O}_7^{4-}$, $\text{H}_2\text{P}_2\text{O}_6^{4-}$, $\text{H}_2\text{P}_2\text{O}_5^{4-}$, $\text{H}_2\text{P}_2\text{O}_4^{4-}$, $\text{H}_2\text{P}_2\text{O}_3^{4-}$, $\text{H}_2\text{P}_2\text{O}_2^{4-}$, $\text{H}_2\text{P}_2\text{O}_1^{4-}$, $\text{H}_2\text{P}_2\text{O}_0^{4-}$

30 most important rxn

26. Complete the following choosing from the given options : 1×2
(greater, lesser, sodium carbonate, sodium hydrogen carbonate)

(a) The ionization enthalpy of beryllium is _____ than that of magnesium.

(b) Washing soda is prepared by recrystallization of _____.

निम्नलिखित रिक्त स्थानों को दिए गए विकल्पों में से चयन करके पूर्ण कीजिए :

(अधिक, कम, सोडियम कार्बोनेट, सोडियम हाइड्रोजन कार्बोनेट)

(क) बेरिलियम की आयनन एन्थैल्पी, मैग्नीशियम की आयनन एन्थैल्पी से _____ है।

(ख) वाशिंग सोडा, _____ के पुनःक्रिस्टलीकरण से बनता है।

capsule class

Physical properties of alkaline earth metals

No.	Characteristic	Trend
1.	Oxidation state	All elements show +2 oxidation state +2
2.	Atomic/ionic radii	$\text{Be} < \text{Mg} < \text{Ca} < \text{Sr} < \text{Ba}$ Size of alkaline earth metals increases from top to bottom due to increase in the number of shells.
3.	Ionization enthalpy	$\text{Be} > \text{Mg} > \text{Ca} > \text{Sr} > \text{Ba}$ As the size increases it becomes easier to remove an electron from the outermost shell.
4.	Electronegativity	$\text{Be} > \text{Mg} > \text{Ca} > \text{Sr} > \text{Ba}$ As the electropositive character increases from top to bottom due to decrease in ionization energy, electronegativity decreases from top to bottom.

29. State Hess's law of constant heat summation. Give an example to justify it.

2

Or

Define enthalpy of ionization. Give an example.

हेस का स्थिर ऊष्मा संकलन नियम व्यक्त कीजिए। इसकी सत्यता सिद्ध करने हेतु एक उदाहरण दीजिए।

अथवा

आयनन एन्थैल्पी की परिभाषा दीजिए। एक उदाहरण दीजिए।

3rd marathon

Enthalpy of transition (phase transformation) ($\Delta_{\text{tr}}H^\circ$)

It is the change in enthalpy when one mole of substance changes from one phase to another at a constant temperature and under 1 bar pressure.

Enthalpy of ionization ($\Delta_{\text{ion}}H^\circ$)

It is the change in enthalpy when one mole of a weak electrolyte is completely ionized in its solution at a constant temperature and under 1 bar pressure.

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Hess's Law of constant heat summation:

Hess's Law

- Hess's law of heat summation states that for a chemical equation that can be written as the sum of two or more steps, the enthalpy change for the overall equation is the sum of the enthalpy changes for the individual steps.

Diagram illustrating Hess's Law:

A $\xrightarrow{\Delta H_1}$ B $\xrightarrow{\Delta H_3}$ C

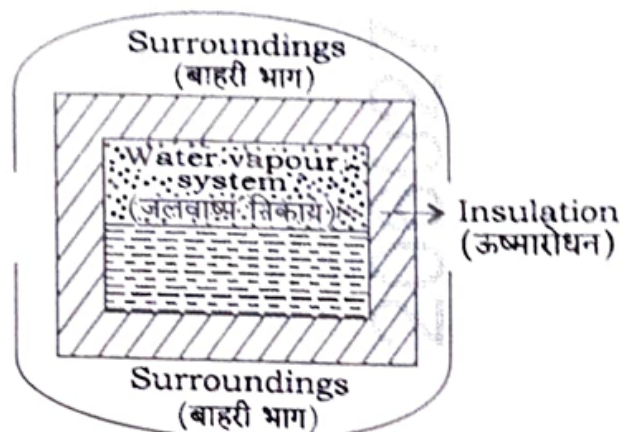
ΔH_2 (from A to B)

$\Delta H_1 = \Delta H_2 + \Delta H_3$

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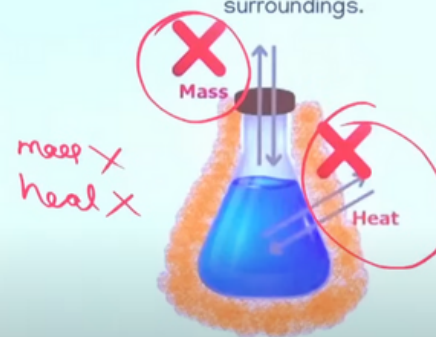
Identify the type of system in the given figure. Define it.

दिए गए चित्र में निकाय के प्रकार की पहचान कीजिए। उसकी परिभाषा लिखिए।



Isolated system:

Isolated system is a system which can exchange neither matter nor energy with the surroundings.



Isolated system

1:48:42 / 3:17:30

Write the expression for standard Gibbs' energy for the reaction occurring in a Daniell cell. Explain the meaning of all the quantities represented in it.

संक्षारण की परिभाषा दीजिए। कौन-सी पर्यावरणीय स्थितियाँ जंग लगने के कारण हैं? जंग लगने के दौरान होने वाले ऐनोडिक प्रक्रम और कैथोडिक प्रक्रम के लिए अभिक्रियाएँ लिखिए।

$$\Delta G = -nFE^{\circ}_{cell}$$

$$=$$

$$\left[\begin{array}{ll} \Delta G = -ve & (\text{Spontaneous}) \\ \Delta G = +ve & (\text{Non spontaneous}) \\ \Delta G = 0 & (\text{equilibrium}) \end{array} \right]$$

Play (k)

2:04:16 / 3:49:15

- Q. (a) What are non-ideal solutions?
 (b) What type of liquid pair shows (i) positive deviation and (ii) negative deviation from Raoult's law?

Or

Define colligative properties. Draw vapour pressure-temperature curve depicting the elevation of boiling point of a liquid when a non-volatile solute is dissolved in it.

(क) अनादर्श विलयन क्या होते हैं?

(ख) किस प्रकार के द्रव-युग्म राउल्ट नियम से (i) धनात्मक विचलन और (ii) ऋणात्मक विचलन प्रदर्शित करते हैं?

(i) Positive deviation:
 Positive deviations are shown by liquid pairs for which the $A-B$ molecular interactions are weaker than the $A-A$ and $B-B$ molecular interactions.

$$\left[\begin{array}{c} \cdot \cdot \cdot \\ \cdot \cdot \cdot \\ \cdot \cdot \cdot \end{array} \right]_A + \left[\begin{array}{c} \cdot \cdot \cdot \\ \cdot \cdot \cdot \\ \cdot \cdot \cdot \end{array} \right]_B = \left[\begin{array}{c} \cdot \cdot \cdot \\ \cdot \cdot \cdot \\ \cdot \cdot \cdot \end{array} \right]_{A-B}$$

$$(A-B) < (A-A) \text{ and } (B-B)$$

$$\Delta_{\text{mix}} H = +ve$$

$$\Delta_{\text{mix}} V = +ve$$

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(ii) Negative Deviation:
 Negative deviations are shown by liquid pairs for which the $A-B$ molecular interactions are stronger than $A-A$ or $B-B$ molecular interactions.

$$(A-B) > (A-A) \text{ and } (B-B)$$

$$\Delta_{\text{mix}} H = -ve$$

$$\Delta_{\text{mix}} V = -ve$$

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IDEAL AND NON-IDEAL SOLUTIONS:

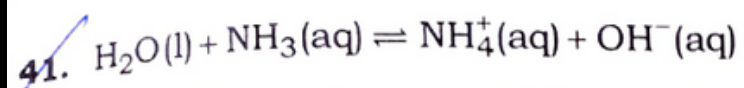
Ideal solutions obey Raoult's Law and during their formation there is no change in heat and volume.

Non-ideal solutions are those solutions which do not obey Raoult's law and whose formation is accompanied by changes of heat and volume.

→ (i) Positive Deviation.
 (ii) Negative Deviation.

??

1:12:33 / 3:49:15



3

Mark the conjugate acid-base pair in the above reaction. Define it.

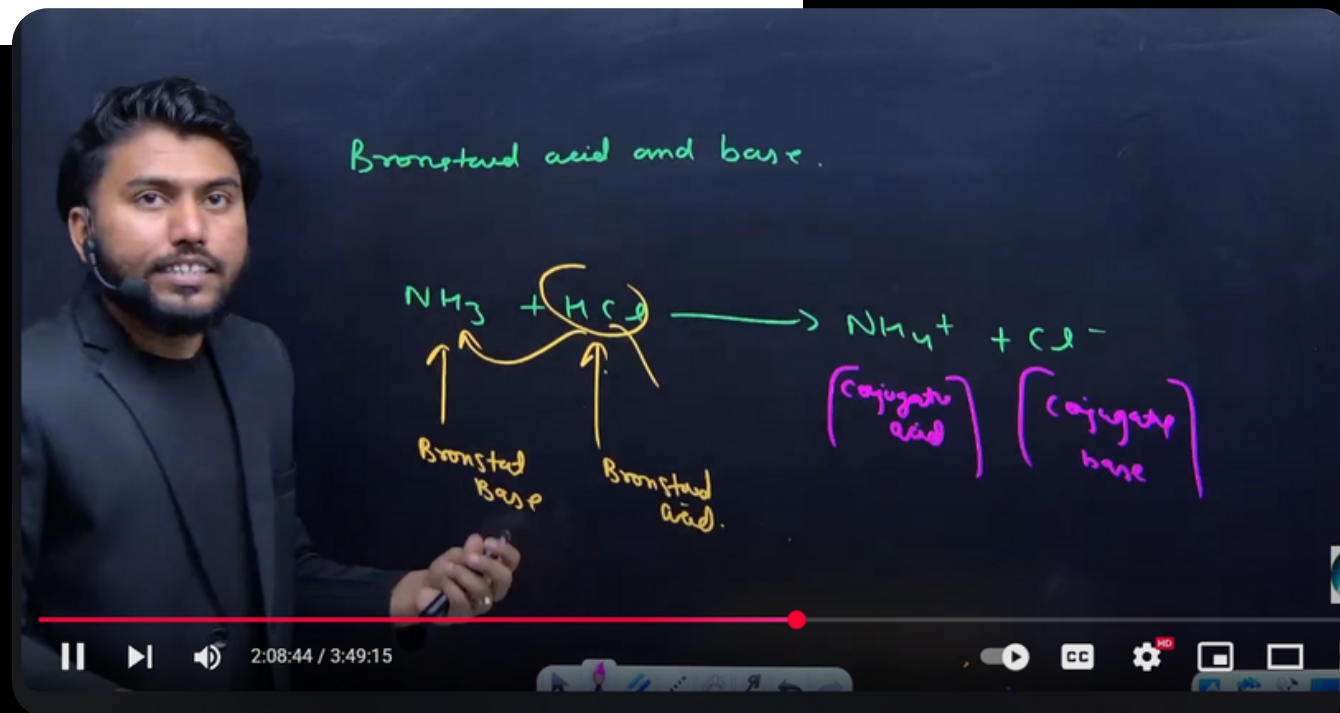
उपर्युक्त अभिक्रिया में संयुग्मी अम्ल-क्षार युग्म को चिह्नित कीजिए। उसकी परिभाषा लिखिए।

Bronsted acid and base.

$\text{NH}_3 + \text{HCl} \longrightarrow \text{NH}_4^+ + \text{Cl}^-$

↑ ↑
Bronsted Base Bronsted Acid

[conjugate acid] [conjugate base]



42. (a) Give the chemical equations for the following :

(i) Clemmensen reduction

(ii) Hell-Volhard-Zelinsky reaction

(iii) Aldol condensation

(b) (i) Which reagents are used to prepare acid anhydrides from carboxylic acids?

(ii) Write the chemical equation for the reaction involving the formation of a symmetrical acid anhydride.

5



Nios Class 12th Chemistry 30 Most :
Important Organic Reactions | Na...

43. (a) Give the IUPAC names of the following :



(b) For the complex $[\text{CoCl}_2(\text{en})_2]^+$

(i) identify the number of geometrical isomers and draw their diagrams;

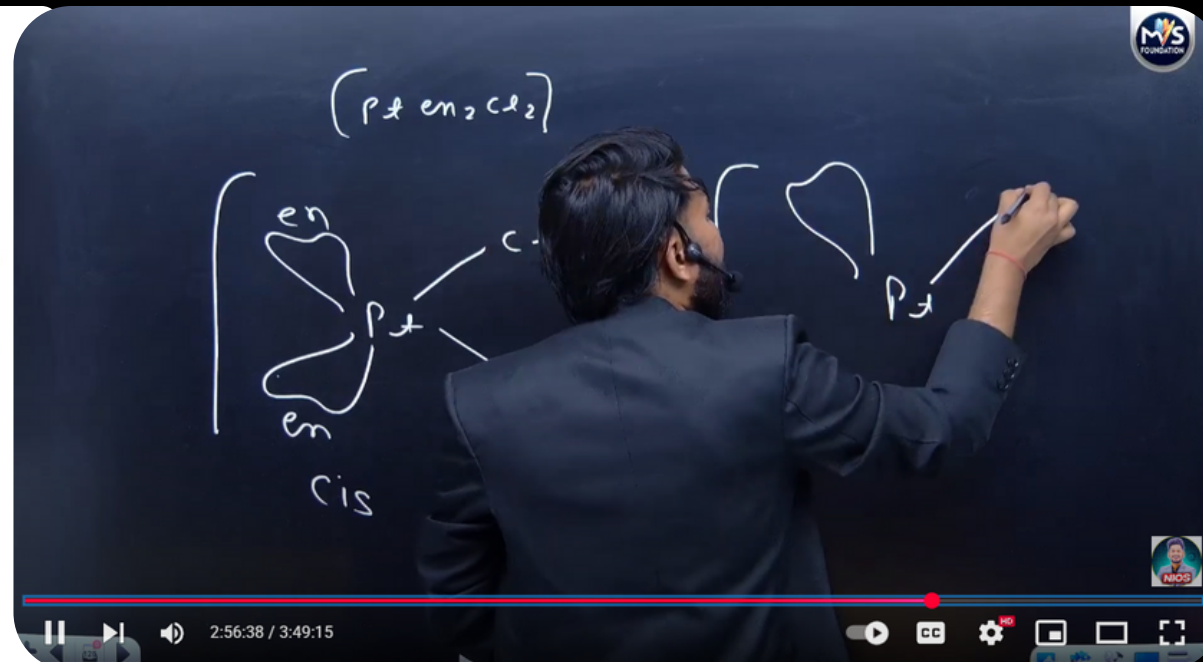
(ii) identify whether there are optical isomers also, if so, draw their structures.

Or

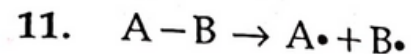
(a) Write the isomers of the complex $[\text{Co}(\text{NH}_3)_6]^{3+} [\text{Cr}(\text{C}_2\text{O}_4)_3]^{3-}$. Which type of isomerism is exhibited by it?

(b) A solution of $[\text{Ni}(\text{H}_2\text{O})_6]^{2+}$ is green but a solution of $[\text{Ni}(\text{CN})_4]^{2-}$ is colourless. Explain. [Atomic number : Ni = 28]

(क) निम्नलिखित के आइ० यू० पी० ए० सी० नाम दीजिए :



Set A



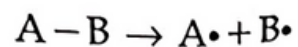
The above reaction is an example of :

(A) Heterolytic fission

(B) Homolytic fission

(C) Ion dissociation

(D) Resonance



उपरोक्त अभिक्रिया एक उदाहरण है :

(A) विषमांगी विदलन का

(B) समांगी विदलन का

(C) आयन वियोजन का

(D) अनुनाद का

TYPES OF REACTIONS IN ORGANIC COMPOUNDS

Breaking of a Covalent Bond - Types of Bond Fission

1. Homolytic fission:

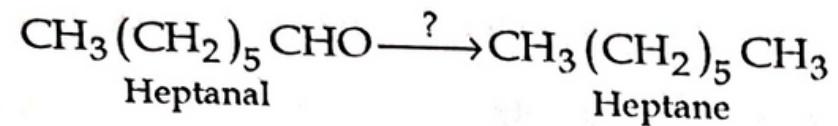
1 The fission of a covalent bond with equal sharing of bonding electrons is known as *homolytic fission*.

Fission of a hypothetical molecule: $A-B \longrightarrow A\cdot + B\cdot$
(Free radicals)

2:58:53 / 3:49:15

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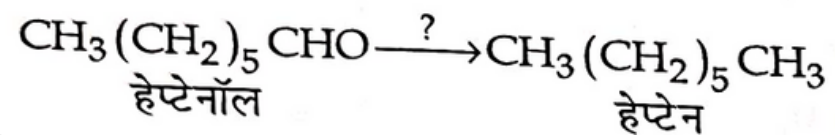
In the following reaction, the missing reagent is :



(A) Zn + Conc. HCl

(C) Fe + Conc. HCl

निम्नलिखित अभिक्रिया में,

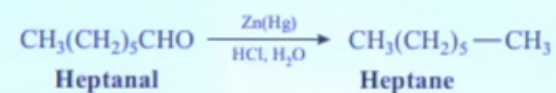


(B) Zn(Hg) + Conc. HCl

(D) Fe(Hg) + Conc. HCl

Clemmensen Reduction

It is carried out in acidic medium using amalgamated zinc and hydrochloric acid.



$\text{CH}_3(\text{CH}_2)_5$

3:23:15 / 3:49:15

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1x2=2

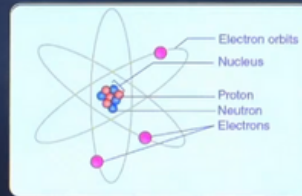
Complete the following by given options below :

(Electromagnetic radiation, electrostatic force, He^{2+} , He^+ , H^+)

- (1) Energy which is transmitted through space in the form of electric and magnetic fields is _____.
- (2) Alpha particles are _____ particles.

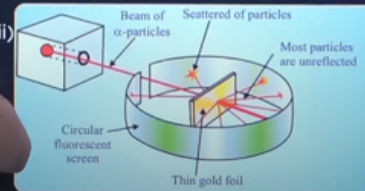
Rutherford's model

Rutherford's model proposed that the positively charged nucleus is at the center and negatively charged electrons surround it. He claimed that the electrons surrounding the nucleus move in circular paths with very high speed. He named these circular paths as orbits.



α -Ray scattering experiment

- Most of the α -particles pass straight through the foil. (ii) Some of the α -particles are deflected at small angles. (iii) A few particles were deflected at large angles. (iv) About 1 in every 10,000 α -particles were reflected back.



ELECTROMAGNETIC RADIATIONS:

Electromagnetic radiation is a form of energy that propagates as both electrical and magnetic waves traveling in packets of energy called photons. The spectrum of electromagnetic radiation with variable wavelengths and frequency, which consists of different characteristic



Read the passage given below and answer the following questions :

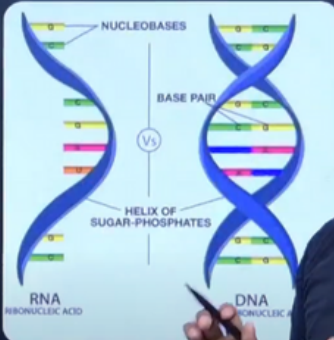
1x2=2

The nucleus of a living cell contains particles responsible for heredity, which are called chromosomes. They are composed of nucleic acids. DNA and RNA are the two types of nucleic acids. They differ in their chemical composition as well as functions.

- (1) List one point of difference between the composition of DNA and RNA.
- (2) What does the specific sequence of bases in DNA represent ?

नीचे दिया गया पढ़िए और निम्नलिखित प्रश्नों के उत्तर दीजिए।

DNA	RNA
1) It contains De oxyribose sugar	1) It contains Ribose sugar
2) DNA structure is a double helix	2) RNA has a single strand
3) The nitrogenous bases consist of Adenine, Guanine, Thymine, Cytosine	3) The nitrogenous bases consist of Adenine, Guanine, Uracil and Cytosine.



The diagram illustrates the structural differences between DNA and RNA. DNA is depicted as a double helix, with the two strands connected by base pairs. Labels indicate 'NUCLEOBASES' at the ends of the strands, 'BASE PAIR' in the center, and 'HELIX OF SUGAR-PHOSPHATES' for the backbone. RNA is shown as a single strand, with 'NUCLEOBASES' labeled at the end and 'RNA RIBONUCLEIC ACID' labeled at the bottom. A 'VS' symbol is placed between the two structures to indicate a comparison.

Video player controls: 1:33:47 / 2:01:05

29. State percent composition of C in SrCO_3 .

[Atomic mass : $\text{Sr} = 87.6 \text{ u}$, $\text{C} = 12.0 \text{ u}$, $\text{O} = 16.0 \text{ u}$]

SrCO_3 में C का प्रतिशत संघटन व्यक्त कीजिये।

[परमाणु द्रव्यमान : $\text{Sr} = 87.6 \text{ u}$, $\text{C} = 12.0 \text{ u}$, $\text{O} = 16.0 \text{ u}$]

OR / अथवा

2 /

Question

INTEXT QUESTIONS 1.6

1. For the compound Fe_3O_4 , calculate percentage of Fe and O.

2. State percent composition for each of the following:
(a) C in SrCO_3 (b) SO_3 in H_2SO_4

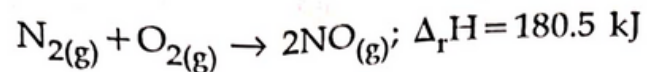
3. What are the empirical formulae of substances having the following molecular formulae?
 H_2O_2 , C_6H_{12} , Li_2CO_3 , $\text{C}_2\text{H}_4\text{O}_2$, S_8 , H_2O , B_2H_6 , O_3 , S_3O_9 , N_2O_3

4. A compound is composed of atoms of only two elements, carbon and oxygen. If the compound contain 53.1% carbon, what is its empirical formula.

Handwritten notes on the screen:
 C_2H_2 , $\text{C}_2\text{H}_2\text{O}_2$, S , B_2H_3 , SO_3

Video player controls: 22:27 / 2:01:05

30. In the given reaction's chemical equation,



If the chemical equation is reversed, then what will be the sign of $\Delta_r H$? Which law governs this process? State the law.

दी गई अभिक्रिया के रासायनिक समीकरण में,

LAWS OF THERMOCHEMISTRY

Lavoisier - Laplace Law:

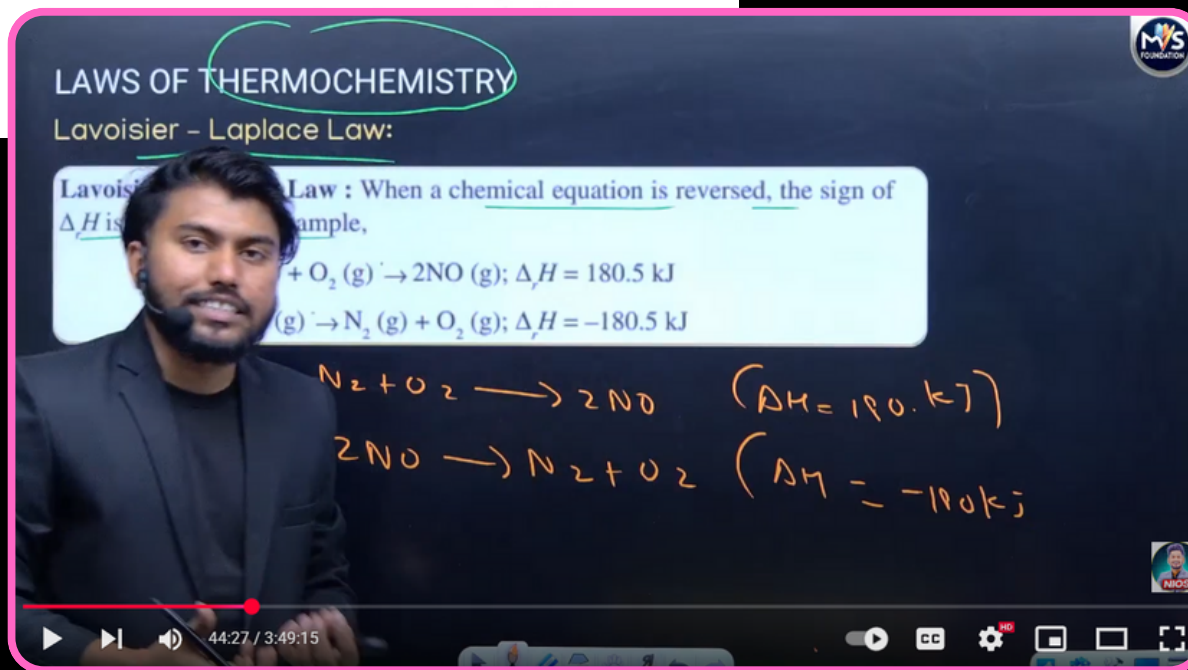
Lavoisier's Law : When a chemical equation is reversed, the sign of $\Delta_r H$ is reversed.

Example,

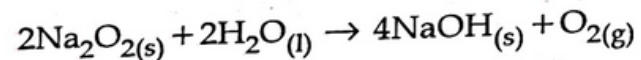
$$\text{N}_{2(g)} + \text{O}_{2(g)} \rightarrow 2\text{NO}_{(g)}; \Delta_r H = 180.5 \text{ kJ}$$
$$2\text{NO}_{(g)} \rightarrow \text{N}_{2(g)} + \text{O}_{2(g)}; \Delta_r H = -180.5 \text{ kJ}$$

$\text{N}_2 + \text{O}_2 \rightarrow 2\text{NO} \quad (\Delta H = 180.5 \text{ kJ})$

$2\text{NO} \rightarrow \text{N}_2 + \text{O}_2 \quad (\Delta H = -180.5 \text{ kJ})$

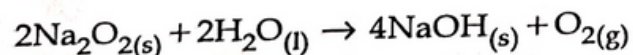


32. Calculate enthalpy of the reaction :



Enthalpies of formation of $\text{NaOH}_{(s)}$, $\text{Na}_2\text{O}_{2(s)}$ and $\text{H}_2\text{O}_{(l)}$ are $-426.4 \text{ kJ mol}^{-1}$, 504 kJ mol^{-1} and -285 kJ mol^{-1} respectively.

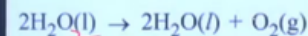
अभिक्रिया की एन्थैल्पी परिकलित कीजिये :



$\text{NaOH}_{(s)}$, $\text{Na}_2\text{O}_{2(s)}$ और $\text{H}_2\text{O}_{(l)}$ की संभवन एन्थैल्पी क्रमशः $-426.4 \text{ kJ mol}^{-1}$, 504 kJ mol^{-1} और -285 kJ mol^{-1} है।

OR / अथवा

Define enthalpy of formation from the data given below, calculate the standard enthalpy for the reaction.



Is it an exothermic or an endothermic reaction ?

Given : $\Delta H_f^\circ(\text{H}_2\text{O}_2(l)) = -188 \text{ kJ mol}^{-1}$; $\Delta H_f^\circ(\text{H}_2\text{O}(l)) = -286 \text{ kJ mol}^{-1}$

$\Delta H_f^\circ(\text{O}_2(g)) = 0 \text{ kJ mol}^{-1}$

$$\begin{aligned} \sum \Delta H_f^\circ &= \sum \text{product} - \sum \text{React} \\ &= [2 \sum (\text{H}_2\text{O}) + \sum (\text{O}_2)] - \\ &= [2 \times -286] - [2 \times -188] \end{aligned}$$

40:57 / 3:49:15

Define molar conductivity of a solution. What are its units ?

किसी विलयन की मोलर चालकता को परिभाषित कीजिए । इसके मात्रक क्या हैं ?

Molar Conductivity

Molar conductivity is the conducting power of all the ions furnished by one mole of an electrolyte in a solution of specified concentration.

$$= \frac{1000 \text{ K}}{\text{M}}$$

... solution. Its units are $\text{S cm}^2 \text{ mol}^{-1}$.

1:39:13 / 3:49:15

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