Total questions in exam: 40 | Answered: 5

Question No. 23

What is the $[H_3O^+]$ in a solution with $[OH^-] = 1 \times 10^{-12}$ M?

- 1×10^{-8} M
- 1×10^{-2} M
- 1×10^{-12} M
- 1×10^{2} M

B

Save & Next

Total questions in exam: **40** | Answered: **22**

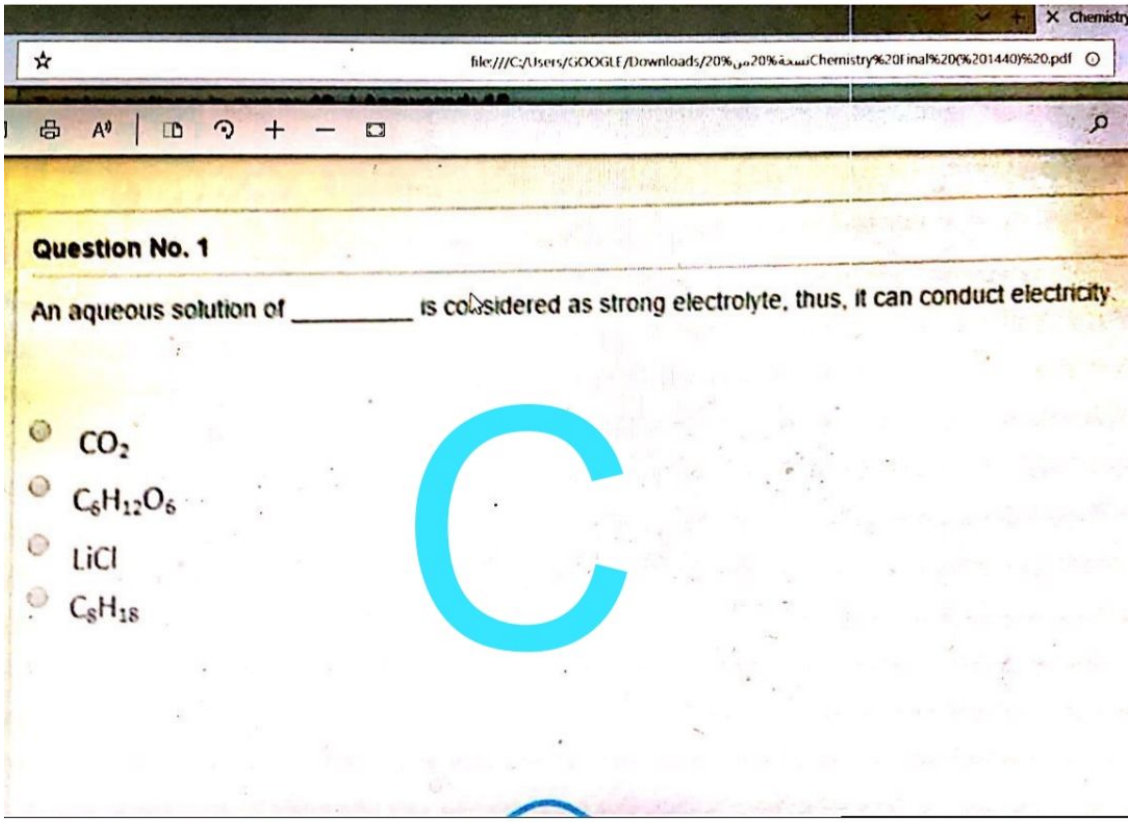
Question No. 21

What is the coefficient of oxygen gas after balancing the following equation

$$\_\_H_2O_2(l) \xrightarrow{\Delta} \_\_H_2O(l) + \_\_O_2(g)$$

- 4
- 1
- 3
- 2

B



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Total questions in exam: 40 | Answered: 22

Question No. 21

What is the coefficient of oxygen gas after balancing the following equation?

$$\_\_H_2O_2(l) \xrightarrow{\Delta} \_\_H_2O(l) + \_\_O_2(g)$$

Total questions in exam: **40** | Answered: **5**

Question No. 25

The most correct name for the compound NI_3 is:

- nitrogen triiodide
- mononitrogen triiodide
- nitrogen iodide
- triiodo nitrogen

A

Save & Next

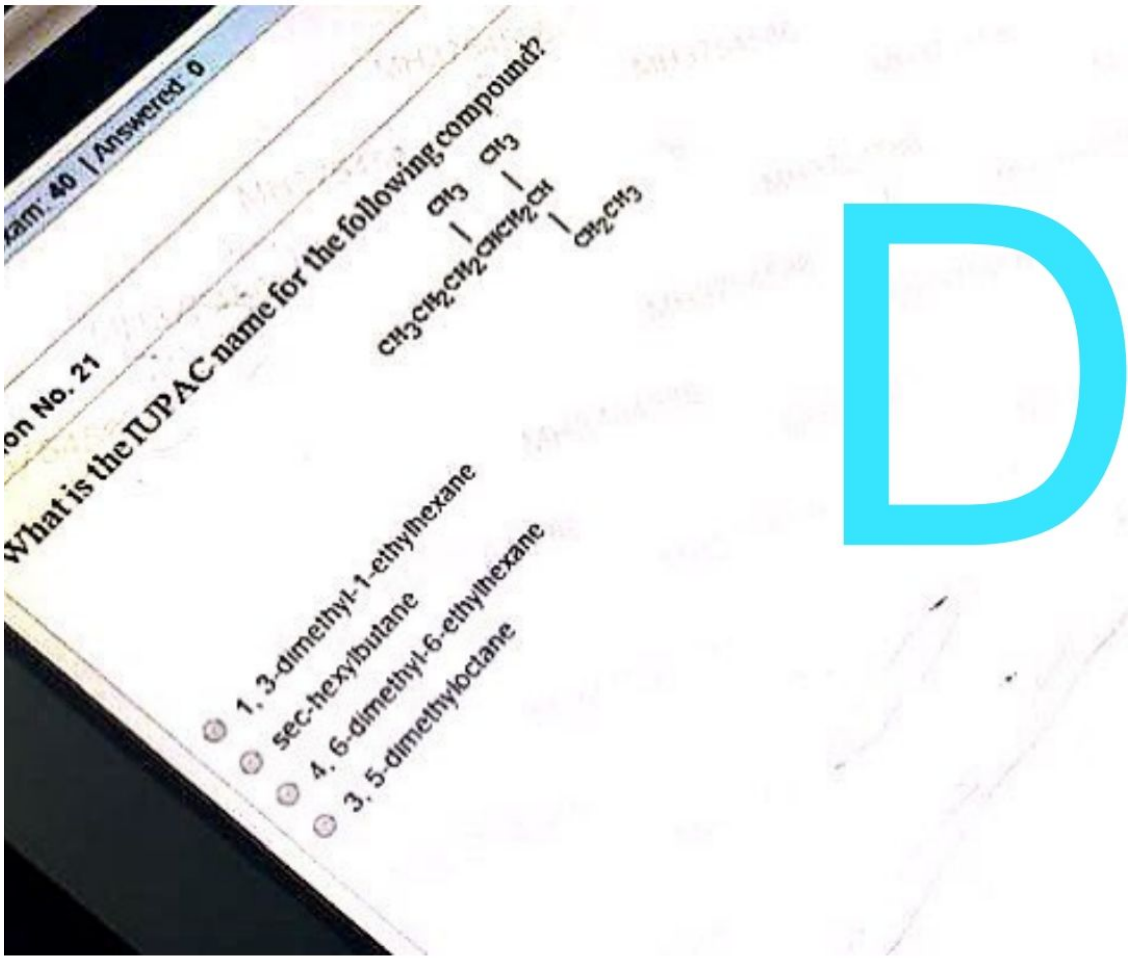
Question No. 23

Which of the following solutions is the most basic?

- $[H_3O^+] > 1.0 \times 10^{-7}\ M$
- $[H_3O^+] = 1.0 \times 10^{-10}\ M$
- $[OH^-] = 1.0 \times 10^{-10}\ M$
- $[OH^-] < 1.0 \times 10^{-10}\ M$

B

Save & Next


am: 40 | Answered: 0
on No. 21
What is the IUPAC name for the following compound?
1, 3-dimethyl-1-ethylhexane
sec-hexylbutane
4, 6-dimethyl-6-ethylhexane
3, 5-dimethyloctane

D

Scann

Save & Next

Question No

A chemical equation is balanced when _____

- the total number of ions is the same in reactants and products.
- the number of atoms of each element is the same in reactants and products.
- the total number of molecules is the same in reactants and products.
- the sum of the coefficients of the reactants is equal to the sum of the coefficients of the products.

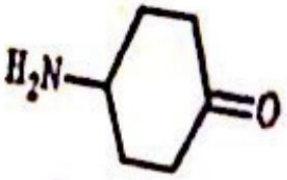
B

Total questions in exam: 40 | Answered: 5

Question No. 32

Which statement about diluted solutions is false? When a solution is diluted, _____

The functional groups in the molecule below are



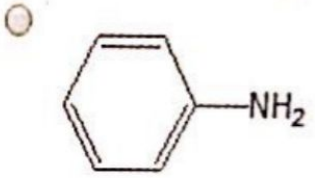
- aldehyde and ketone
- aldehyde and amine
- carboxylic acid and amine
- ketone and amine

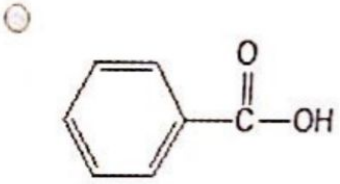
D

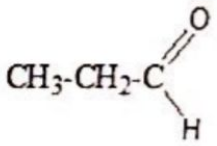
Total questions in exam: **40** | Answered: **28**

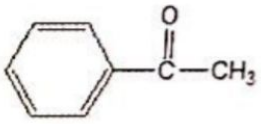
Question No. 34

Which structure below represents a ketone?

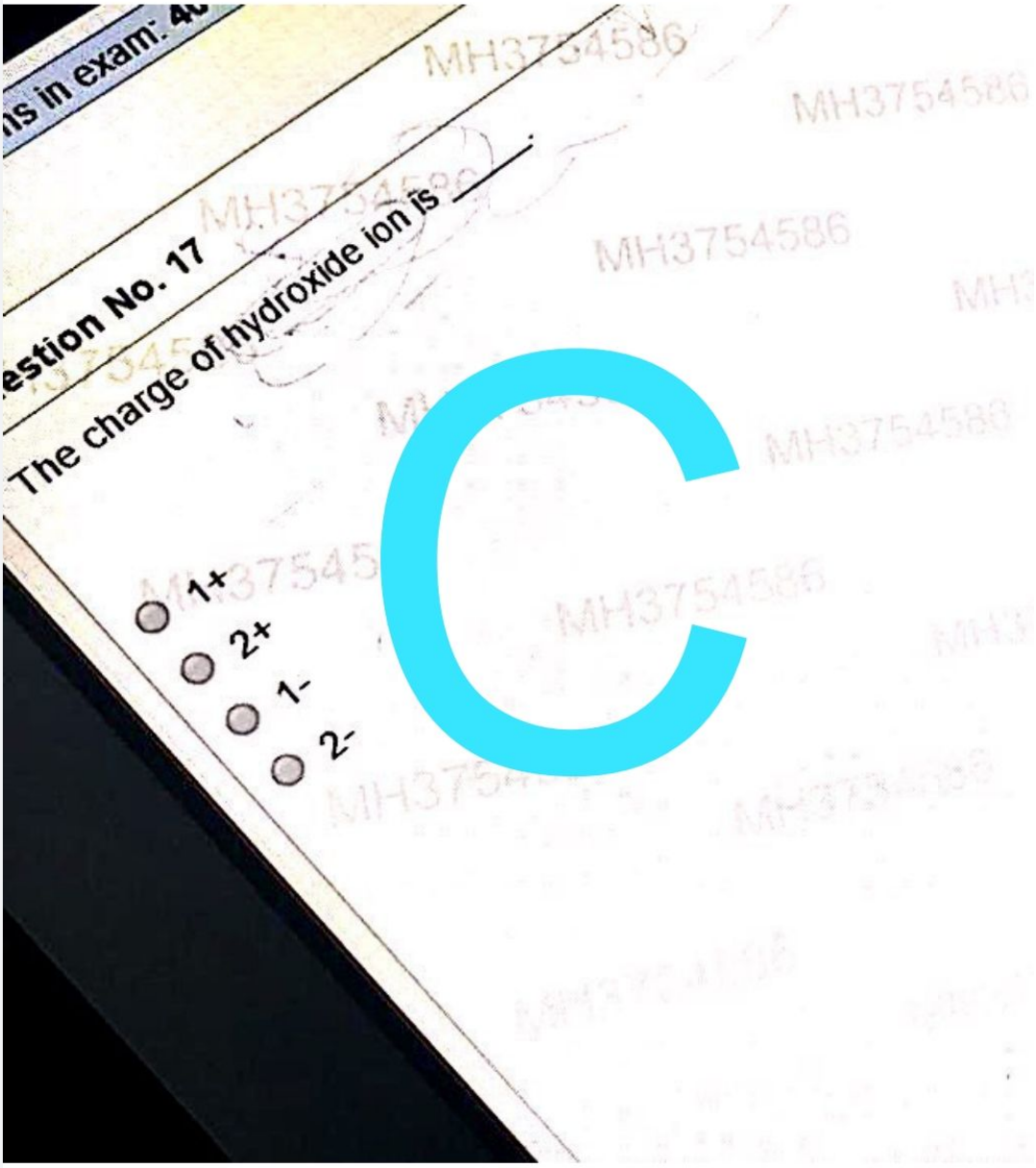


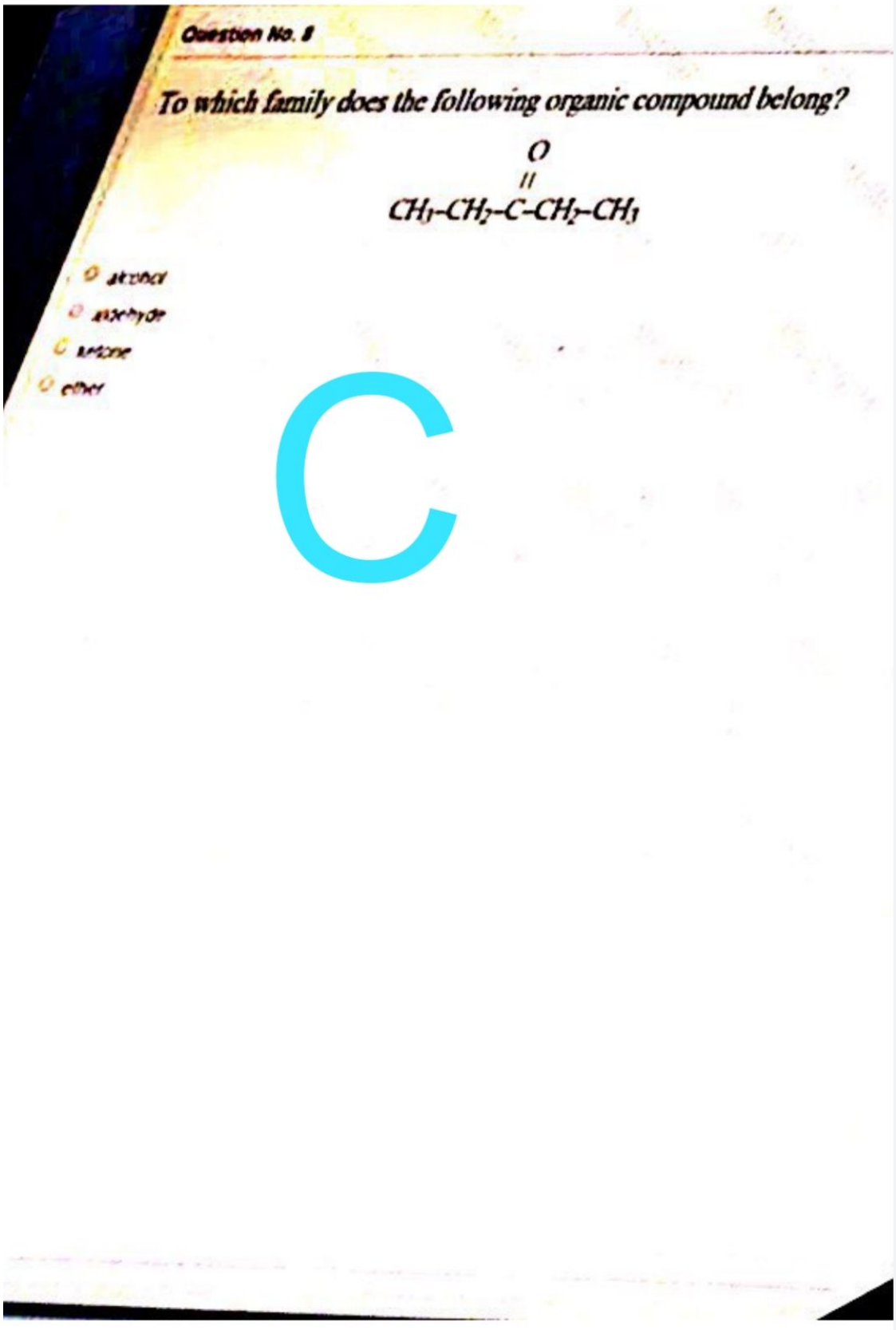






D


ns in exam: 40
estion No. 17
The charge of hydroxide ion is
1+
2+
1-
2-
C



Save & Next

MKCL OES

Chemistry_FT_Se

Total questions in exam: **40** | Answered: **32**

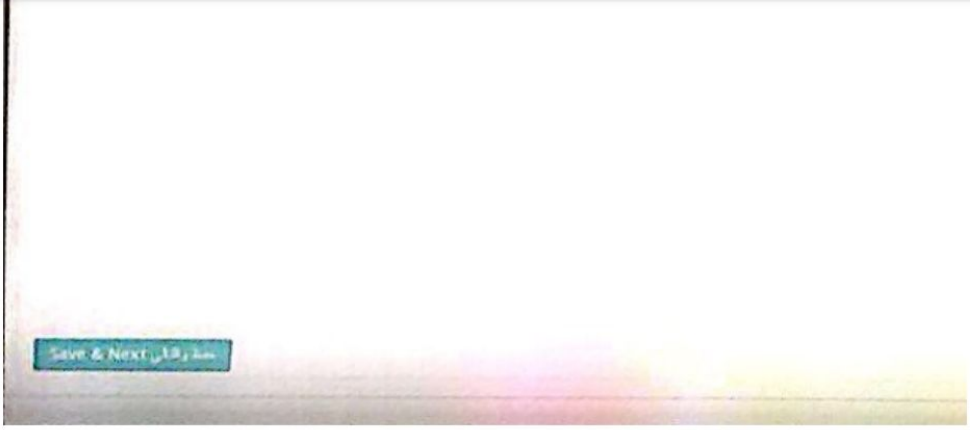
Question No. 32

What is the molarity of a solution made by dissolving 25.00 g of NaCl in enough water to make 625 mL of solution

- 0.684 M
- 0.308 M
- 0.479 M
- 0.526 M

A

Save & Next



MKCL OES

Chemistry_FT_

Total questions in exam 40 | Answered 32

Question No. 33

Dinitrogen tetraoxide decomposes to produce nitrogen dioxide. Calculate the equilibrium constant for the reaction given the equilibrium concentrations at 100 °C:
$[N_2O_4] = 0.60\ M$ and $[NO_2] = 1.00\ M$.

$$N_2O_4(g) \rightleftarrows 2\,NO_2(g)$$

- $K_c = 1.67$
- $K_c = 2.00$
- $K_c = 0.625$
- $K_c = 0.500$

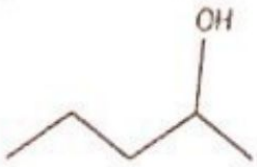
A

MKCL OES

Total questions in exam: **40** | Answered: **32**

Question No. 37

Identify the type of this organic compound:



- ketone
- alcohol
- carboxylic acid
- aldehyde

B

١٨٩ / ١٤٠

Save & Next

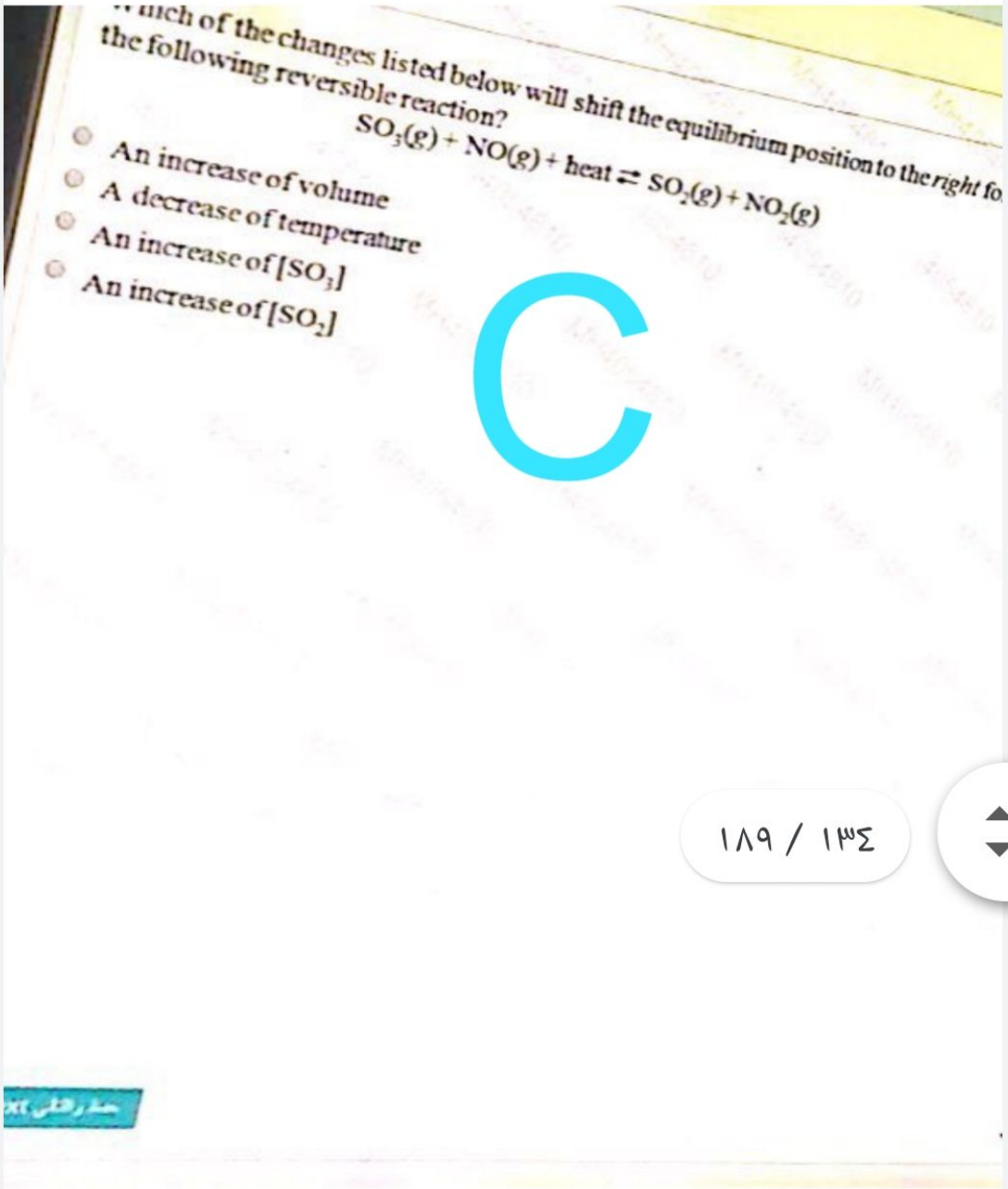
Total questions in exam: 40 | Answered: 32

Question No. 38

Solutions that resist sharp changes in their pH values are called _____.

- adducts
- electrolytes
- non-electrolytes
- buffers

D



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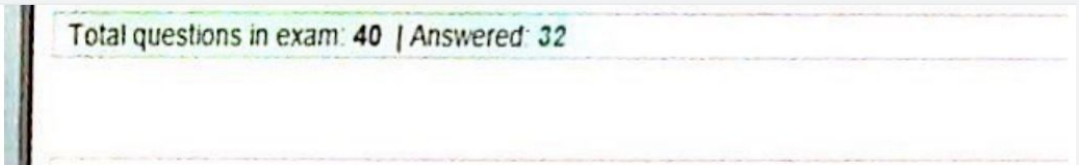


Total questions in exam: **40** | Answered: **32**

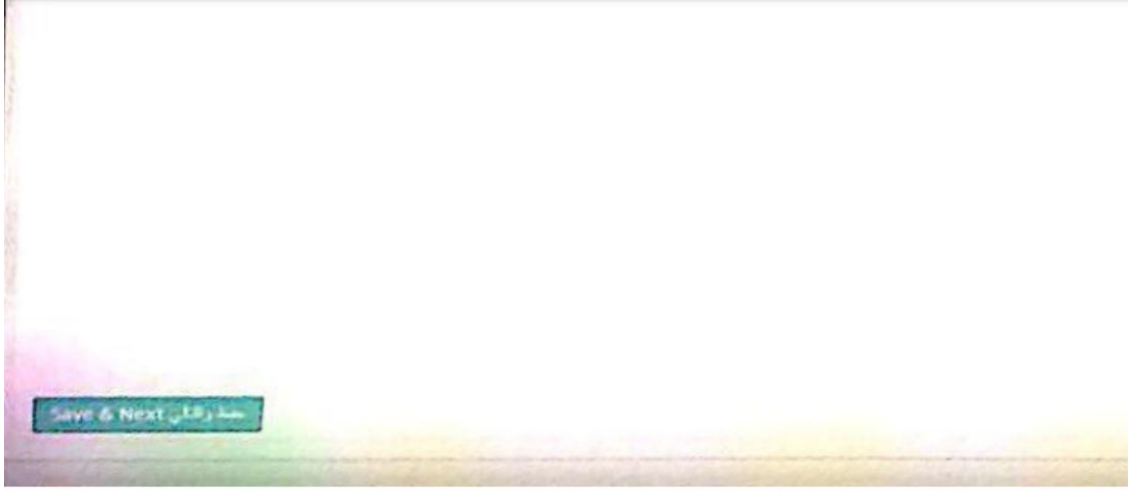
Question No. 39

When the temperature is decreased on the following system at equilibrium:

$$HCl_{(aq)} + Mg_{(s)} \rightleftarrows MgCl_{2(aq)} + H_{2(g)} + heat$$

- None of these choices is true
- the reaction shifts left to restore equilibrium
- the reaction shifts right to restore equilibrium
- No change occurs

C



MKCL OES

Chemistry_F

Total questions in exam: **40** | Answered: 32

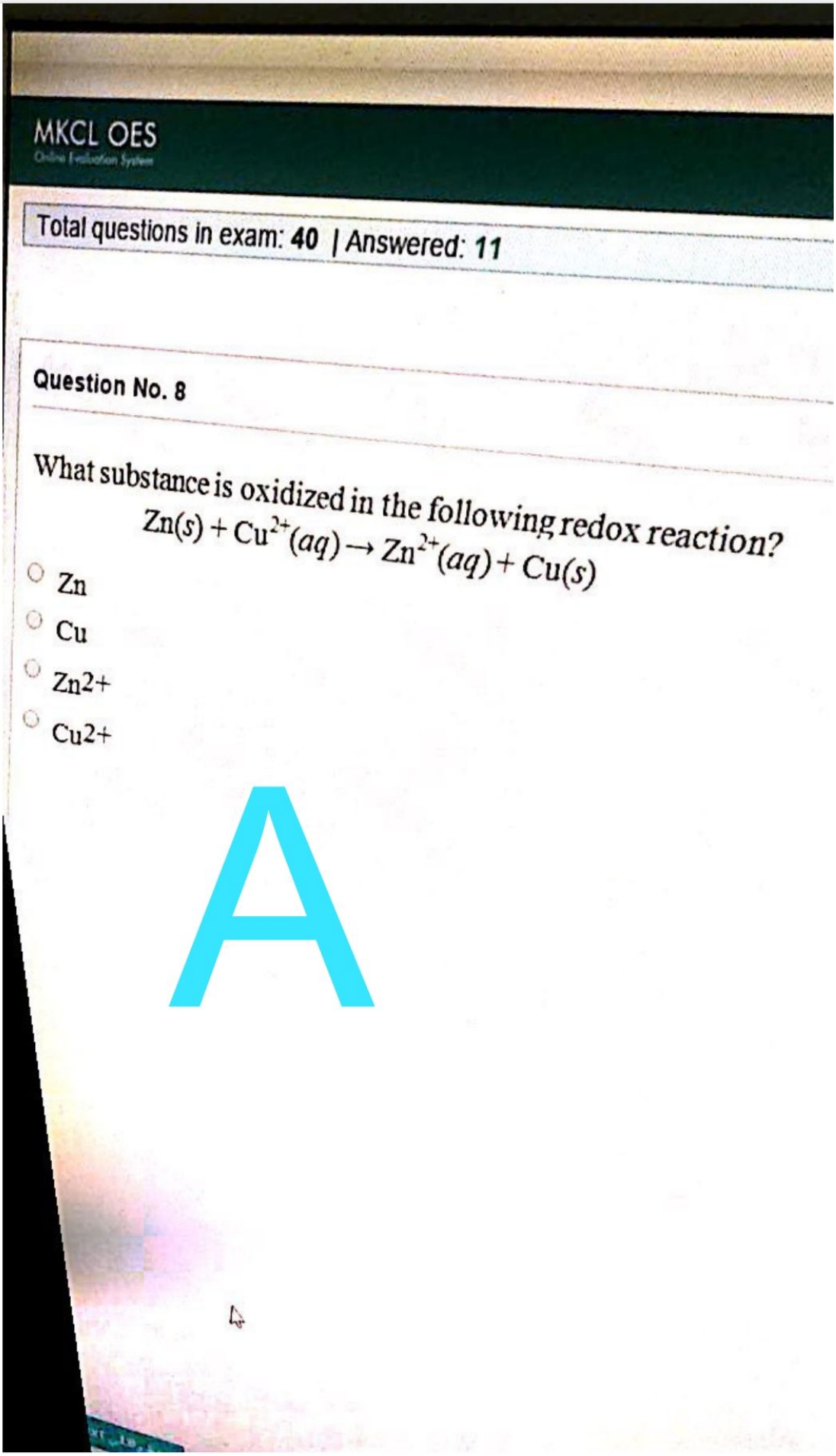
Question No. 40

Refer to the equilibrium shown below. If the reaction volume is increased, this will _____

$$CH_4\,(g) + 2O_2\,(g) \rightleftarrows CO_2\,(g) + 2H_2O\,(g)$$

- cannot be determined, since the temperature is unknown
- shift the reaction to the right
- have no effect
- shift the reaction to the left

C



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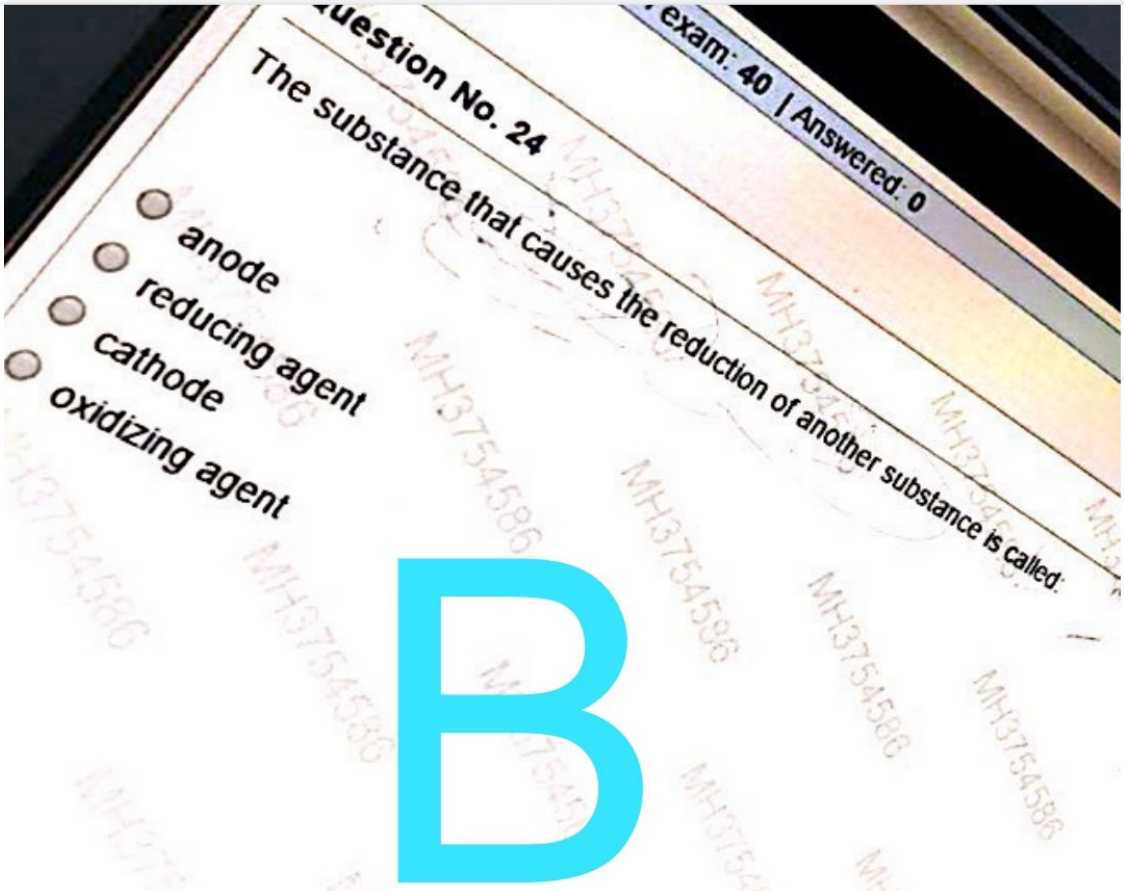


Total questions in exam: 40 | Answered: 5

Question No. 24

Refer to the equilibrium shown below. Adding excess oxygen will _____

$$CH_4\,(g) + 2O_2\,(g) \rightleftarrows CO_2\,(g) + 2H_2O\,(g)$$

- have no effect
- cannot be determined, since the temperature is not known
- shift the reaction to the right
- shift the reaction to the left

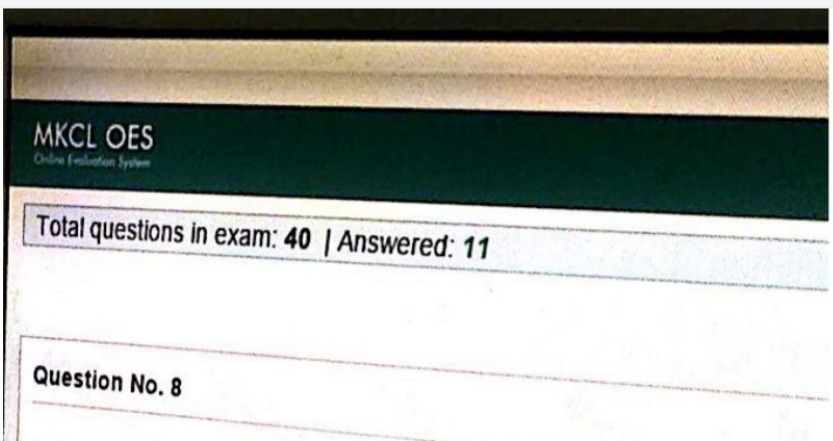
C

Question No. 27

After a chemical reaction reaches equilibrium, _____

- The amount of products is increasing.
- The amount of reactants and products are constant.
- The amount of products is decreasing.
- The amount of reactants and products are equal.

B



Total questions in exam: **40** | Answered: **35**

Question No. 29

What is the empirical formula of the compound that has a composition by mass of 84.2% C and 15.8% H?

- C_3H_8
- C_4H_{10}
- C_4H_9
- C_3H_9

C

Save & Next حفظ والتالي

Total questions in exam: 40 | Answered: 32

Question No. 30

Which of the following is true if the hydronium ion concentration "increases" in an aqueous solution?

- pH decreases
- pH increases
- K_w increases
- K_w decreases

B

Save & Next حفظ والتالي

Total questions in exam: 40 | Answered: 5

Question No. 20

Identify the conjugate acid in the following reversible reaction.

$$HF(aq) + HSO_3^-(aq) \leftrightarrow F^-(aq) + H_2SO_3(aq)$$

- $F^-(aq)$
- $H_2SO_3(aq)$
- $HF(aq)$
- HSO_3-(aq)

B

Save & Next حفظ والتالي

Save & Next حفظ والتالي

Total questions in exam: **40** | Answered: **32**

Question No. 39

When the temperature is decreased on the following system at equilibrium:

$$HCl_{(aq)} + Mg_{(s)} \rightleftharpoons MgCl_{2(aq)} + H_{2(g)} + heat$$

- None of these choices is true
- the reaction shifts left to restore equilibrium
- the reaction shifts right to restore equilibrium
- No change occurs

C

Save & Next حفظ والتالي

Total questions in exam: 40 | Answered: 5

Question No. 26

Which of the following pairs of species is NOT a conjugate acid-base pair?

- H_2SO_4 and HSO_4^-
- NH_3 and NH_2
- H_2O and OH^-
- HSO_4^- and SO_4^{2-}

B

ave & Next حفظ والتالي

Question No. 28

For the following acid-base reaction, identify

$$HCl + NaOH \rightleftharpoons ???? + ?$$

- H_3OCl, acid
- $NaOH_2$, base
- NaCl, acid
- NaCl, water

D

Total questions in exam: **40** | Answered: **32**

Question No. 29

In the reaction below, what is the theoretical yield in grams for B_2H_6 when 5 moles of BF_3 react with 4 moles of NaH?

$$8BF_3 + 6NaH \rightarrow 6NaBF4 + B_2H_6$$

- 28.5 g
- 9.5 g
- 17.3 g
- 12.5 g

C

MKCL OES

Chem

Total questions in exam: **40** | Answered: **5**

MKCL OES
Online Evaluation System

Chem

Total questions in exam: 40 | Answered: 5

Question No. 21

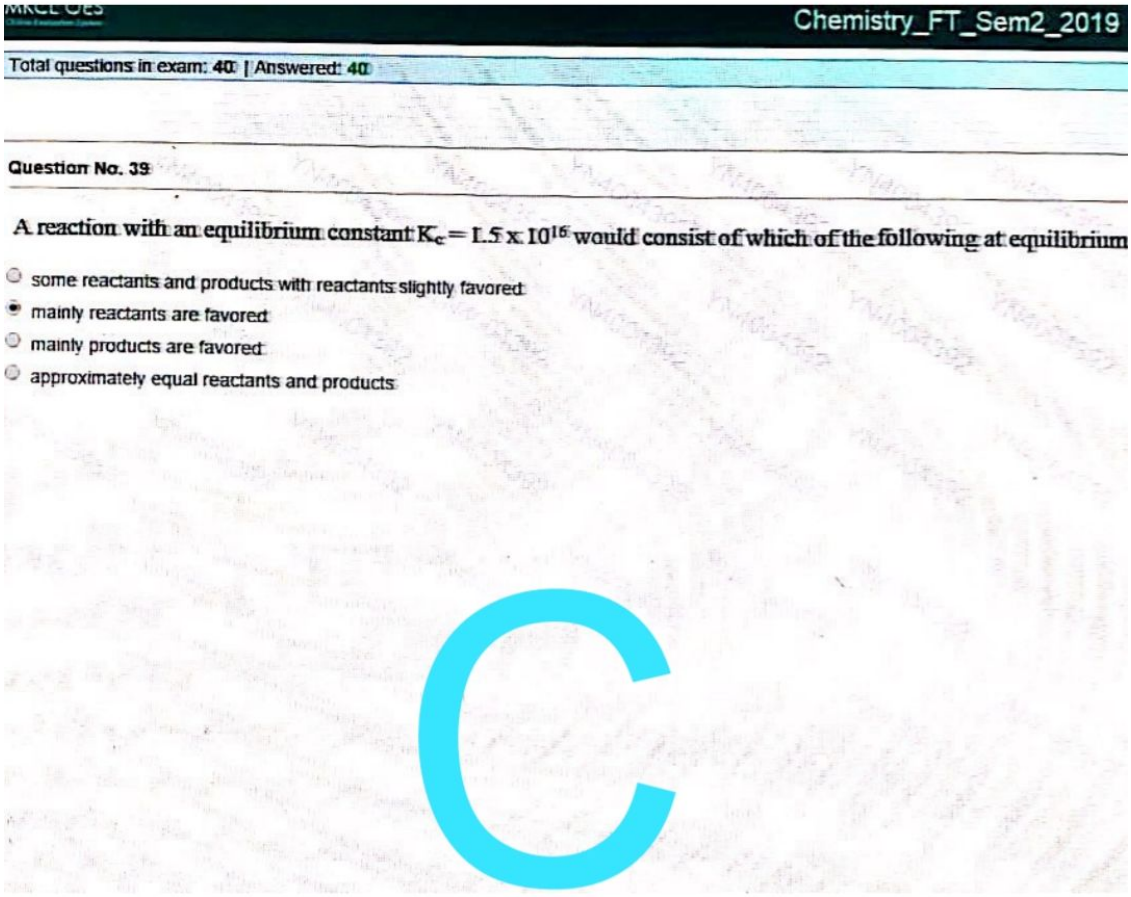
Determine the limiting reactant (LR) and the theoretical yield (in g) of iron (F
can be formed from 28.65 g Fe_2O_3 and 10.0 g Al according to the following e

$$Fe_2O_3 + 2\,Al \rightarrow Al_2O_3 + 2\,Fe$$

- Al, 19.99 g Fe.
- Fe_2O_3, 20.7 g Fe.
- Fe_2O_3, 19.99 g Fe.
- Al, 20.7 g Fe.

C

Save & Next



Question No. 22

Solid aluminum and gaseous oxygen react in a combination reaction to produce Al_2O_3

$$4Al\ (s) + 3\ O_2\ (g) \rightarrow 2\ Al_2O_3\ (s)$$

The maximum amount of Al_2O_3 that can be produced from 2.5 g of Al and 2.5 g of O_2 is _____ g.

- 4.7
- 7.4
- 5.3
- 9.4

B

A

١٨٩ / ١١٣

Total questions in exam: **40** | Answered: **40**

Question No. 6

_____ gives a non-electrolyte when dissolved in water.

- weak base
- $CaCl_2$
- HNO_3
- $C_{12}H_{22}O_{11}$

D

Save & Next

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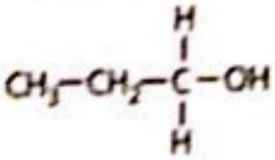
What is the type of the following alcohol?



- Quaternary
- Primary
- Secondary
- Tertiary

Primary

Save & Next

MKCL OES
Online Evaluation System

Chemis

Total questions in exam: **40** | Answered: **40**

Question No. 3

What is the coefficient of oxygen gas after balancing the following equation?

$$\_\_AgClO_3(s) \xrightarrow{\Delta} \_\_AgCl(s) + \_\_O_2(g)$$

- ○ 1
- ○ 3
- ◉ 2
- ○ 4

B

Question No. 9

MKCL OES

Total questions in exam: **40** | Answered: **11**

Question No. 8

What substance is oxidized in the following redox reaction?

$$Zn(s) + Cu^{2+}(aq) \rightarrow Zn^{2+}(aq) + Cu(s)$$

- Zn
- Cu
- Zn2+
- Cu2+

A

MKCL OES

Chemis

Total questions in exam: **40** | Answered: **40**

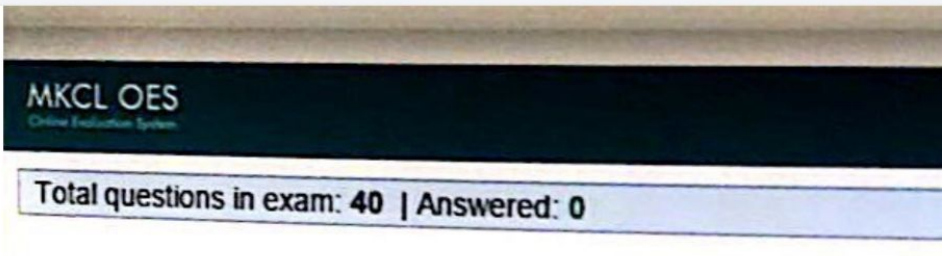
Total questions in exam: **40** | Answered: **0**

Question No. 7

If 5.0 moles of LiF are dissolved in enough water to make 2.5 L of solution, calculate the molarity of this solution.

- 1.0 M
- 2.0 M
- 2.5 M
- 0.75 M

B



MKCL OES
Online Evaluation System

Total questions in exam: **40** | Answered: **0**

Question No. 8

Which of the following molecular formulas corresponds to an alkene?

- C_8H_{16}
- C_8H_{14}
- C_8H_{20}
- C_8H_{18}

A

Total questions in exam: **40** | Answered: **40**

Question No. 14

How many grams of $AlCl_3$ could be produced when 1.5 moles of Cl_2 completely react with aluminum according to the reaction?

$$2Al + 3Cl_2 \rightarrow 2AlCl_3$$

- 134 g
- 333 g
- 267 g
- 533 g

A

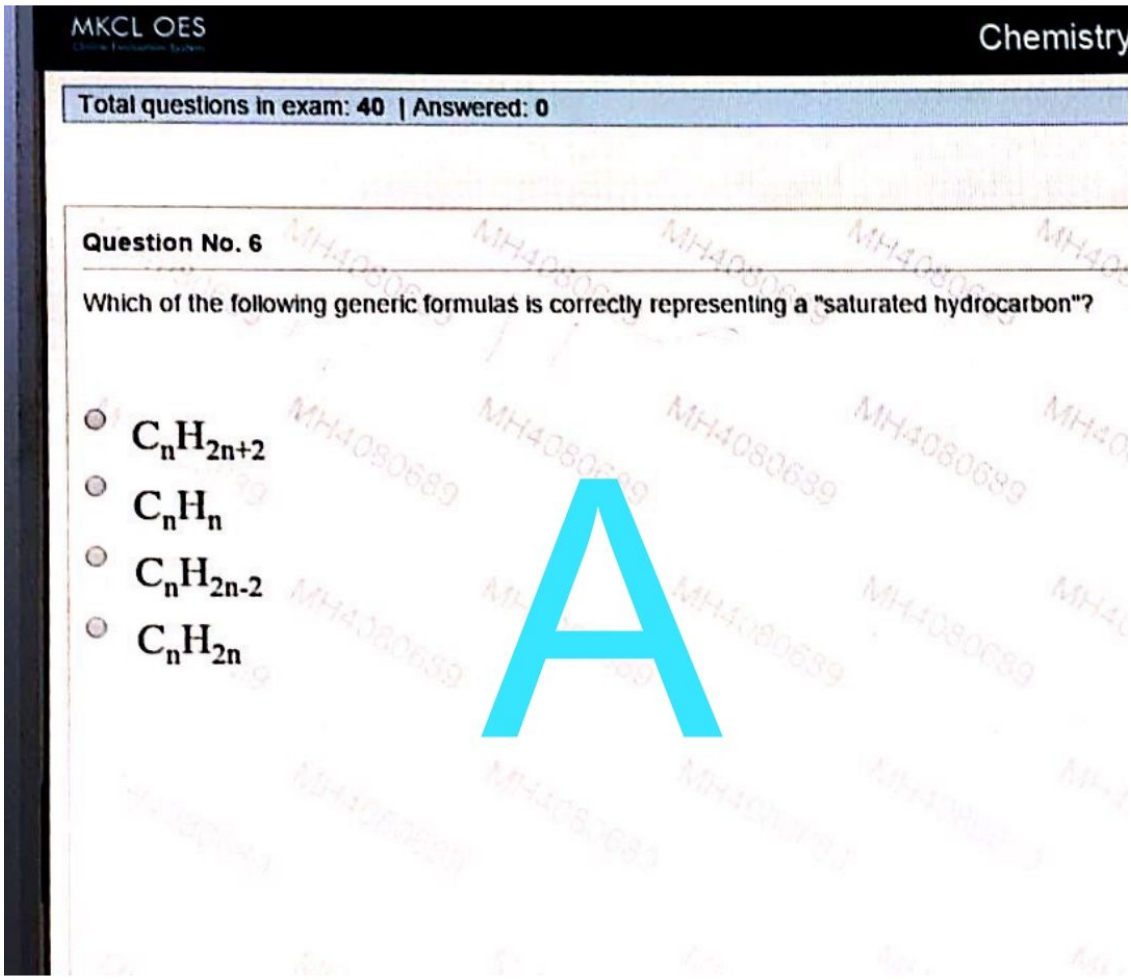
Total questions in exam: **40** | Answered: **0**

Question No. 4

What is the oxidation number of iron in Fe_2O_3?

- -6
- -3
- +3
- +6

C

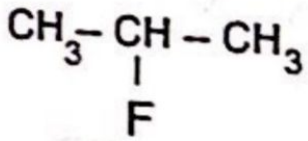

MKCL OES
Chemistry
Total questions in exam: 40 | Answered: 0
Question No. 6
Which of the following generic formulas is correctly representing a "saturated hydrocarbon"?
C_nH_{2n+2}
C_nH_n
C_nH_{2n-2}
C_nH_{2n}
A

MKCL OES

Total questions in exam: 40 | Answered: 0

Question No. 5

What is the correct name of the following compound?



- 2-fluoropropane
- fluoropropyl
- 2-fluorobutane
- 1-fluoropropane

A

Total questions in exam: **40** | Answered: **3**

Question No. 40

What is the final molarity of H_2SO_4 solution, if 80 mL of 4M H_2SO_4 was diluted to a final volume of 1 L?

- 0.48 M
- 0.24 M
- 0.32 M
- 0.40 M

C

Total questions in exam: **40** | Answered: **0**

Question No. 3

The following reaction is *exothermic*. Which of the following will drive the reaction the right (towards products)?

$$CH_4\,(g) + 2\,O_2\,(g) \rightleftarrows CO_2\,(g) + 2\,H_2O\,(g) + \text{heat}$$

- An increase in temperature
- An increase of H_2O

C

Total questions in exam: 40 | Answered: 0

Question No. 3

The following reaction is *exothermic*. Which of the following will drive the reaction to the right (towards products)?

$$CH_4\,(g) + 2\,O_2\,(g) \rightleftarrows CO_2\,(g) + 2\,H_2O\,(g) + \text{heat}$$

- An increase in temperature
- An increase of H_2O
- The removal of CH_4
- A decrease of CO_2

D

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Total questions in exam: 40 | Answered: 0

Question No. 2

What substance is the oxidizing agent in the following redox reaction?

$$Zn(s) + Cu^{2+}(aq) \rightarrow Zn^{2+}(aq) + Cu(s)$$

- Cu^{2+}
- Zn
- Cu
- Zn^{2+}

A

Save & Next

Question No. 39

When the substances in the equation below are at equilibrium, at pressure P and temperature T, the equilibrium can be shifted to favor the products by

$$CuO(s) + H_2(g) \rightleftharpoons H_2O(g) + Cu(s) + Heat$$

- adding more CuO
- increasing the pressure.
- decreasing the pressure.
- decreasing the temperature

Scientific Calculator

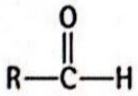
Question No. 38

Which of the following is NOT a conjugate acid/base pair?

- H_2SO_3 /SO_3^{2-}
- HCl / Cl^-
- HNO_3 / NO_3^-
- HBr / Br^-

A

What is the family of a compound that has he following general formula?



- ketone
- aldehyde
- carboxylic acid
- ester

B

Scientific Calculator

Question No. 33

Give the direction of the reaction, if Kc >> 1

- Both directions are equally favored.
- The forward reaction is favored.
- The reverse reaction is favored.
- Neither direction is favored.

B

Total questions in exam: 40 | Answered: 3

Question No. 37

Determine the value of K_c for the following reaction if the equilibrium concentrations are as follows: $[N_2]_{eq} = 1.5$ M, $[H_2]_{eq} = 1.1$ M, $[NH_3]_{eq} = 0.47$ M.

$$N_2(g) + 3\,H_2(g) \rightleftharpoons 2\,NH_3(g)$$

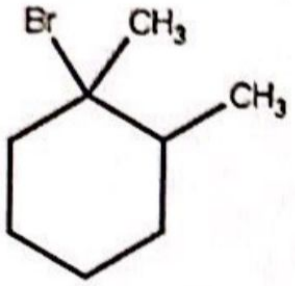
- 0.11
- 3.5
- 0.28
- 9.1

A

Question No. 36

Question No. 36

Choose the correct name for the following compound:



- 2-bromo-2-methyltoluene
- 1-bromo-1,2-dimethylcyclohexane
- 1-bromo-1,2-dimethylbenzene
- 2-bromo-1,2-dimethylcyclohexane

B

Question No. 32

The conjugate base of H_2SO_4 is

- HSO_4^-
- HSO_4^+
- H_2SO_4
- OH^-

A

Total questions in exam: 40 | Answered: 3

Question No. 29

Organic compounds that contain a "benzene ring" are called _____ compounds.

- saturated
- carboxylic
- cycloalkane
- aromatic

D

Question No. 32

Question No. 28

What is the $[OH^-]$ in a solution that has a $[H_3O^+] = 1 \times 10^{-6}$ M?

- 1×10^{-8} M
- 1×10^{-2} M
- 1×10^{-6} M
- 1×10^{-10} M

A

Question No. 31

How many grams of $AlCl_3$ could be produced when 94.5 grams of Al completely react with Cl_2 according to the reaction?

$$2Al + 3Cl_2 \rightarrow 2AlCl_3$$

- 533 g
- 133 g
- 399 g
- 467 g

D

Question No. 31

How many grams of $AlCl_3$ could be produced when 94.5 grams of Al completely react with Cl_2 according to the reaction?

$$2Al + 3Cl_2 \rightarrow 2AlCl_3$$

- 533 g
- 133 g
- 399 g
- 467 g

D

Total questions in exam: 40 | Answered: 3

Question No. 27

The mass percent composition of oxygen in the acid H_2SO_3 is:

- 65.3%
- 2.5%
- 58.5%
- 39.1%

C

Total questions in exam: **40** | Answered: **3**

Question No. 24

Identify the substance that contains ionic bond.

- KCl
- Ne
- CO
- H_2O

A

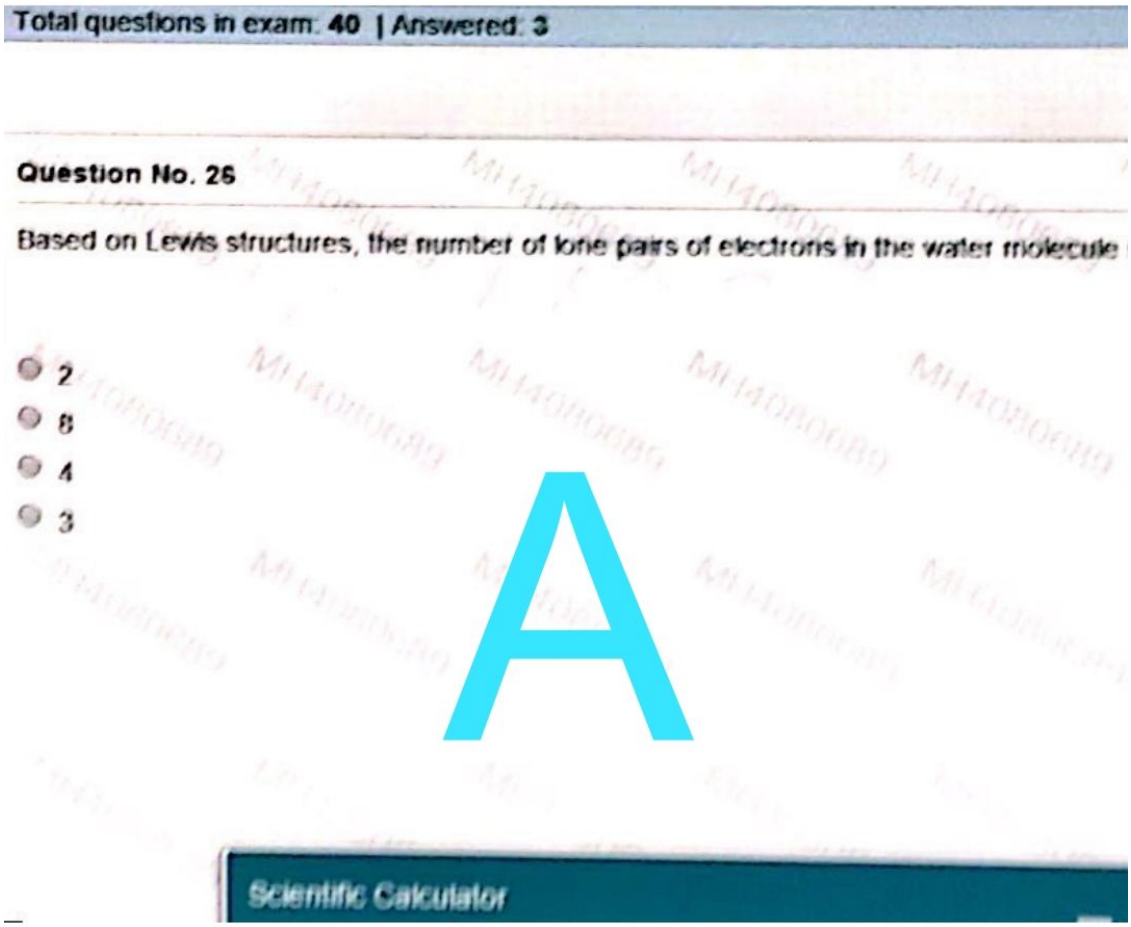
uestion No. 25

dentify the Bronsted-Lowry conjugate acid in the following reaction

$$H_2O + CO_3^{2-} \rightarrow HCO_3^- + OH^-$$

- HCO_3^-
- H_2O
- CO_3^{2-}
- OH^-

A


Total questions in exam: 40 | Answered: 3
Question No. 26
Based on Lewis structures, the number of lone pairs of electrons in the water molecule
2
8
4
3
A
Scientific Calculator

Sca

Total questions in exam: **40** | Answered: **3**

Question No. 23

Which of the following expression symbols is used for quantifying acidity and basicity?

- pH
- aH
- bH
- eH

A

Total questions in exam: **40** | Answered: **3**

Question No. 24

Question No. 21

Which of the following pairs is NOT a conjugate acid-base pair according to the concept of Bronsted-Lowry?

- $H_2PO_4^-$ and HPO_4^{2-}
- H_3PO_4 and $H_2PO_4^-$
- H_3PO_4 and HPO_4^{2-}
- HPO_4^{2-} and PO_4^{3-}

Total questions in exam: 40 | Answered: 3

Question No. 20

Which of these substances gives a weak electrolyte when dissolved in water?

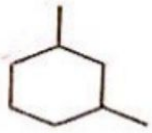
- ionic salt
- strong acid
- weak base
- strong base

C

Total questions in exam: **40** | Answered: **3**

Question No. 16

Provide the name of the compound below.



- 1,3-dimethylcyclohexane
- 1,2-dimethylhexane
- 2,4-dimethylcyclohexane
- Dimethylcyclohexane

A

Scientific Calculator

Total questions in exam: **40** | Answered: **3**

Question No. 18

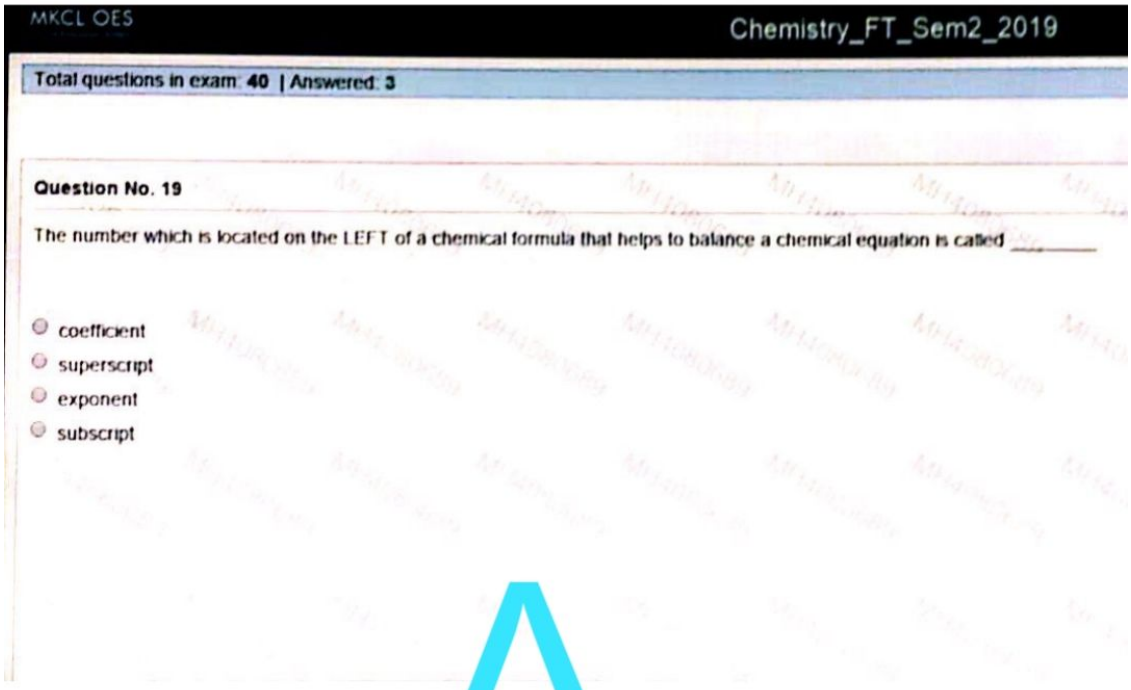
In the reaction below, what is the theoretical yield in moles for LiOH when 6 grams of Li_2O react with 7 grams of H_2O?

$$Li_2O + H_2O \rightarrow 2LiOH$$

- 1.0 mol
- 0.4 mol
- 0.6 mol
- 0.8 mol

B

Scientific Calculator



A

Question No. 17

How many hydrogen atoms are there in "butane" ?

- 10
- 4
- 6
- 8

A

Question No. 13

Which of the following is a polyatomic ion?

- NO_3^{1-}
- Br^{1-}
- Na^{1+}
- S^{2-}

A

Total questions in exam: 40 | Answered: 3

Question No. 10

How many moles of $(NH_4)_2S$ are there in 150 g of $(NH_4)_2S$?

- 1.56
- 1.04
- 2.21
- 1.5

C

Save & Next حفظ والتالي

Question No. 6

The oxidation number of Cr in $Cr_2O_7^{2-}$ is _____.

- +2
- +6
- +5
- +4

B

Question No. 3

What is the mass% of carbon in ($C_2H_6O_2$)?

- 7.74%
- 63%
- 20.6%
- 38.7%

D

38.7%

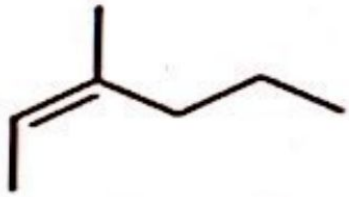
Save & Next

Scan

Total questions in exam: 40

Question No. 5

What is the name of the following compound?



- 3-methylenehexane
- 3-methyl-3-hexene
- 4-ethyl-4-hexene
- 3-methyl-2-hexene

D

Question No. 7

The IUPAC name of C_3H_4 is _____.

- propene
- propane
- butyne
- propyne

D

Question No. 9

How many grams of $AlCl_3$ could be produced when 54 grams of Al completely react with Cl_2 according to the reaction?

$$2\ Al + 3\ Cl_2 \rightarrow 2\ AlCl_3$$

- 342 g
- 112 g
- 133 g
- 267 g

D

Save & Next حفظ والتالي

Question No. 8

If the reaction is endothermic, which of the following is always true?

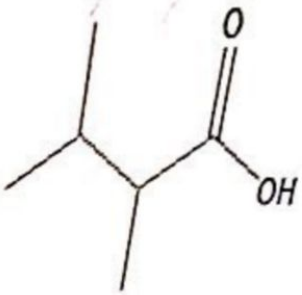
- the reaction gives out heat
- the reaction rate is fast
- the reaction rate is slow

Save & Next

Total questions in exam: **40** | Answered: **3**

Question No. 11

To which family does this organic compound belong?



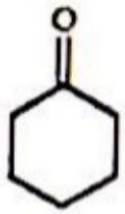
- ether
- amine
- carboxylic acid
- amide

C

Total questions in exam: 40 | Answered: 3

Question No. 2

Identify the type of this organic compound:



- ketone
- aldehyde
- carboxylic acid
- alcohol

A

Question No. 4

Ionic bonding is formed as a result of _____

- transfer of electrons.
- sharing of electrons
- gain of electrons only.
- loss of electrons only.

A

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Question No. 1

The name of the chemical compound KNO_3 is:

- potassium nitrite
- potassium(I) nitrite
- potassium(I) nitrate
- potassium nitrate

D

Save & Next

Total questions in exam: **40** | Answered: **0**

Question No. 1

Express the equilibrium constant for the following reaction.

$$PCl_5\ (g) \rightleftharpoons PCl_3\ (g) + Cl_2\ (g)$$

- $K = \dfrac{[PCl_3][Cl_2]}{[PCl_5]}$
- $K = \dfrac{[PCl_3]^2[Cl_2]^2}{[PCl_5]^2}$
- $K = \dfrac{[PCl_5]}{[PCl_3][Cl_2]}$
- $K = \dfrac{[PCl_3][Cl]^2}{[PCl_5]}$

A

Save & Next

Save & Next حفظ والتالي

Question No. 3

Determine the molecular formula of a compound that has a molar mass of 146 g/mol an an empirical formula of $C_3H_5O_2$.

- $C_3H_5O_2$
- $C_9H_{15}O_6$
- $C_6H_{15}O_4$
- $C_6H_{10}O_4$

D

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Question No. 4

D

Question No. 6

What is the equilibrium constant expression for the following reaction?

$$4\ NH_3(g) + 5\ O_2(g) \rightleftarrows 4\ NO(g) + 6\ H_2O(g)$$

- $K_c = [NH_3]^4\,[O_2]^5 / [NO]^4\,[H_2O]^6$
- $K_c = [NO]^4\,[H_2O]^5 / [NH_3]^4\,[O_2]^5$
- $K_c = [NO]\,[H_2O] / [NH_3]\,[O_2]$
- $K_c = [NH_3]\,[O_2] / [NO]\,[H_2O]$

B

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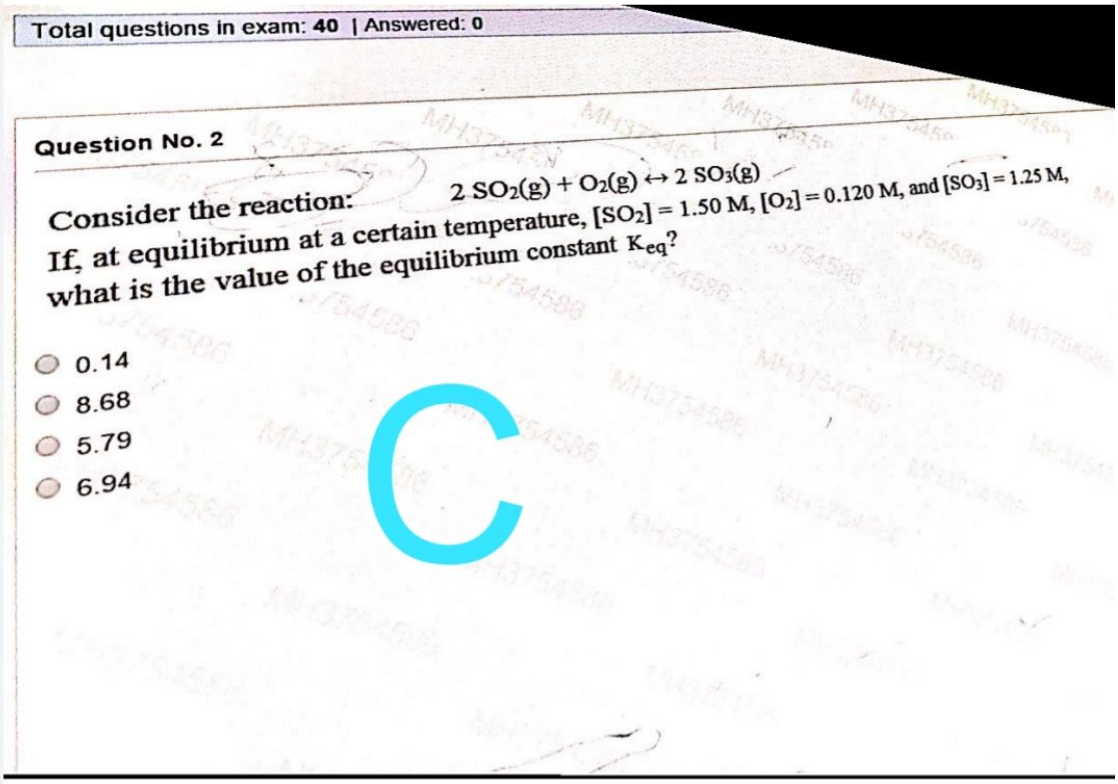
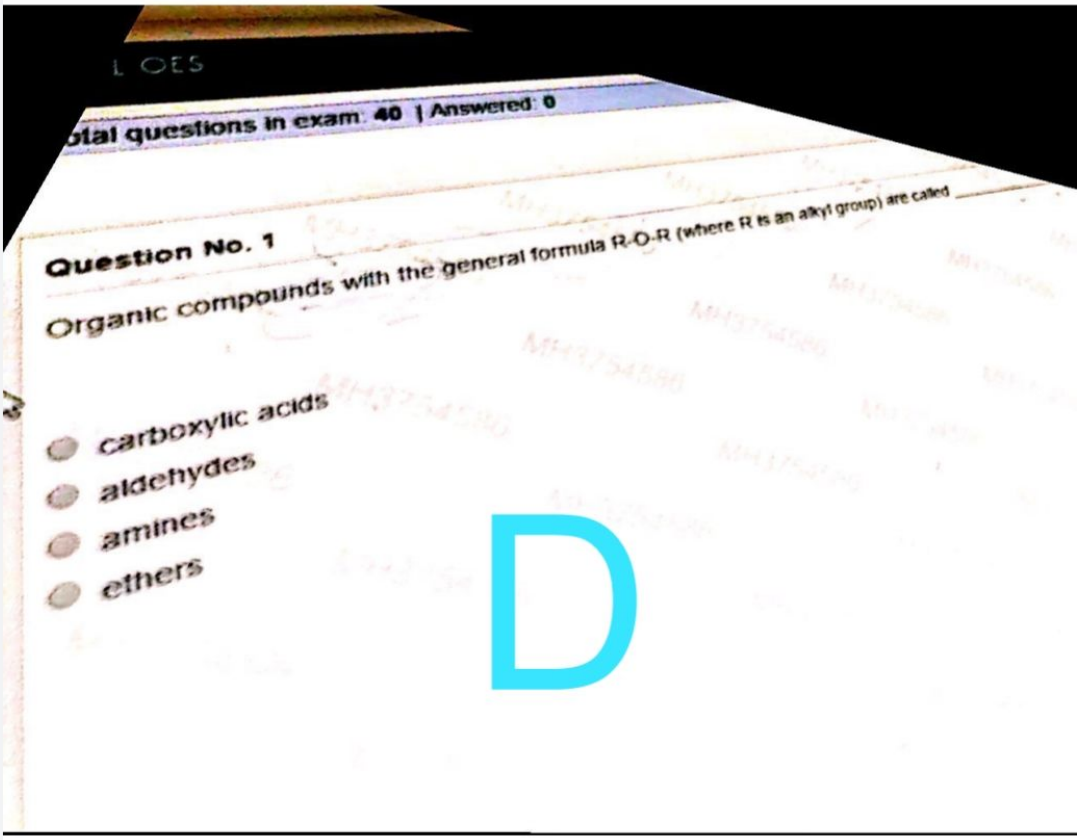
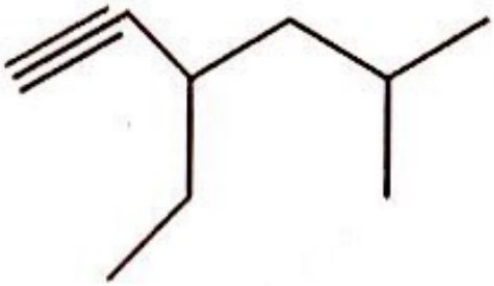




Total questions in exam: 40 | Answered: 0

Question No. 2

Name the following compound:



- 2-methyl-4-ethyl-5-hexyne
- 4-ethyl-2-methyl-5-hexyne
- 3-ethyl-5-methyl-1-hexyne
- 5-methyl-3-ethyl-1-hexyne

C

Question No. 36

If the reaction is endothermic, which of the following is always true?

- the reaction rate is fast
- the reaction takes in heat
- the reaction gives out heat
- the reaction rate is slow

B

The reaction that requires thermal energy to proceed is known as _____ reaction.

- oxidation
- endothermic
- isothermic
- exothermic

B

D

Question No. 27

Refer to the equilibrium shown below. Which of the following will shift the reaction to the right?

$$CH_4\,(g) + 2O_2\,(g) \rightleftharpoons CO_2\,(g) + 2H_2O\,(g)$$

- adding excess oxygen
- increasing the pressure
- removing carbon dioxide as soon as it is formed
- adding O_2 and removing CO_2

D

Refer to the equilibrium shown below. If the reaction volume is increased, this will ____

$$CH_4\,(g) + 2O_2\,(g) \rightleftharpoons CO_2\,(g) + 2H_2O\,(g)$$

- shift the reaction to the left
- shift the reaction to the right
- cannot be determined, since the temperature is unknown
- have no effect

D

D

Question No. 12

In the following reaction, what is the effect on the direction of the reaction if more SO_3 is added to the reaction mixture?

$$2SO_2\,(g) + O_2\,(g) \rightleftharpoons 2SO_3\,(g)$$

- The equilibrium shifts to produce more products.
- The rate of formation of products is increased.
- The position of the equilibrium remains unchanged.
- The equilibrium shifts to produce more reactants.

D

Sc

In a neutralization reaction, _____

- an acid reacts with a base to form a salt and water
- two acids react to form water
- water and a salt react to form an acid and a base
- an acid and a salt react to form water and a base

A

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Question No. 21

"A system at equilibrium tends to maintain equilibrium", this statement is known as ____

- Avogadro's principle
- Haber's law
- The law of chemical equilibrium
- Le Chatelier's principle

Save & Next حفظ و التالي

Question No. 20

What is the IUPAC name for: CH_3-CH_2-CH_2-CH_3?

- pentane
- butane
- heptane
- hexane

Save & Next حفظ والتالي

Save & Next حفظ والتالي

Total questions in exam: **40** | Answered: **11**

Question No. 32

Which of the following pairs is NOT a conjugate acid-base pair according to the concept of Bronsted-Lowry?

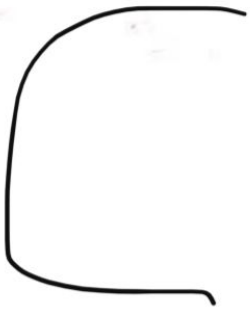
- H_3PO_4 and HPO_4^{2-}
- H_3PO_4 and $H_2PO_4^-$
- $H_2PO_4^-$ and HPO_4^{2-}
- HPO_4^{2-} and PO_4^{3-}

A

Question No. 39

If the $[OH^-]$ in a blood sample = 1×10^{-7}, the pH of this blood sample is _____

- pH = 1 x 10^{-7}
- pH = 1 x 10^{-7}
- pH = 7
- pH = - 7



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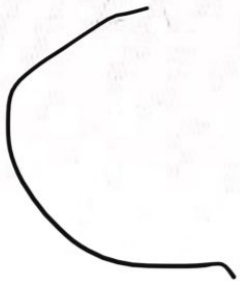
Total questions in exam: **40** | Answered: **30**

Question No. 40

Based on Lewis dot structures, the number of lone pairs of electrons in HCl molecule is ____ pairs.

- 1
- 2
- 3
- 0



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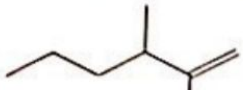
Question No. 4

A solution is made by dissolving 2.68 mole of KF in enough water to give a final volume of 1030 mL. What is the molarity of the solution?

- 1.52 M
- 2.60 M
- 0.800 M
- 0.125 M

Question No. 38

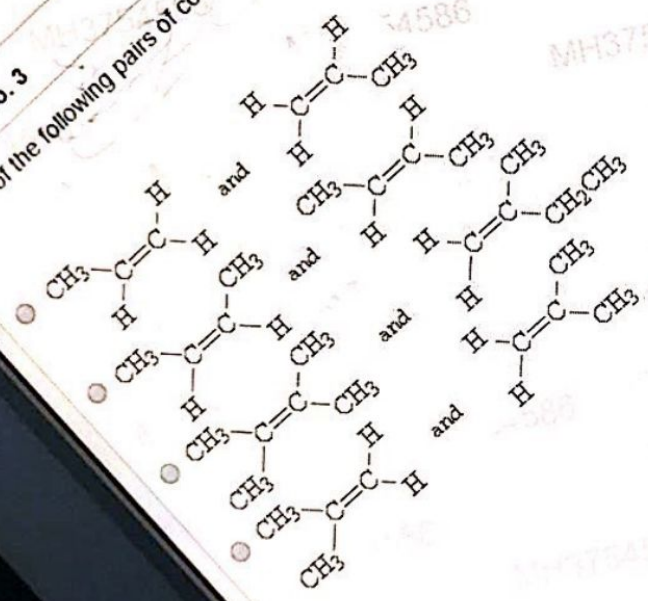
Provide the name of the compound below.



stions in exam: 40 | Answered: 0

Question No. 3

Which of the following pairs of compounds are cis-trans isomers?



Question No. 20

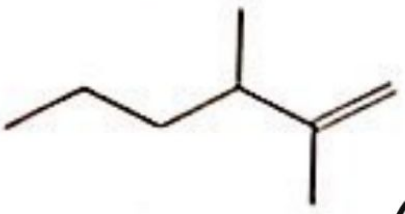
CO_2 acts as a Lewis acid in the reaction $CaO(s) + CO_2 \rightarrow CaCO_3(s)$ because it _____

- reacts with a metal
- turns blue litmus to red
- is a proton donor
- is an electron-pair acceptor

Calculator

Question No. 38

Provide the name of the compound below.



- 2,3-dimethyl-1-hexene
- 4,5-dimethyl-6-hexene
- 4,5-dimethyl-5-hexene
- 2,3-dimethyl-2-hexene

A

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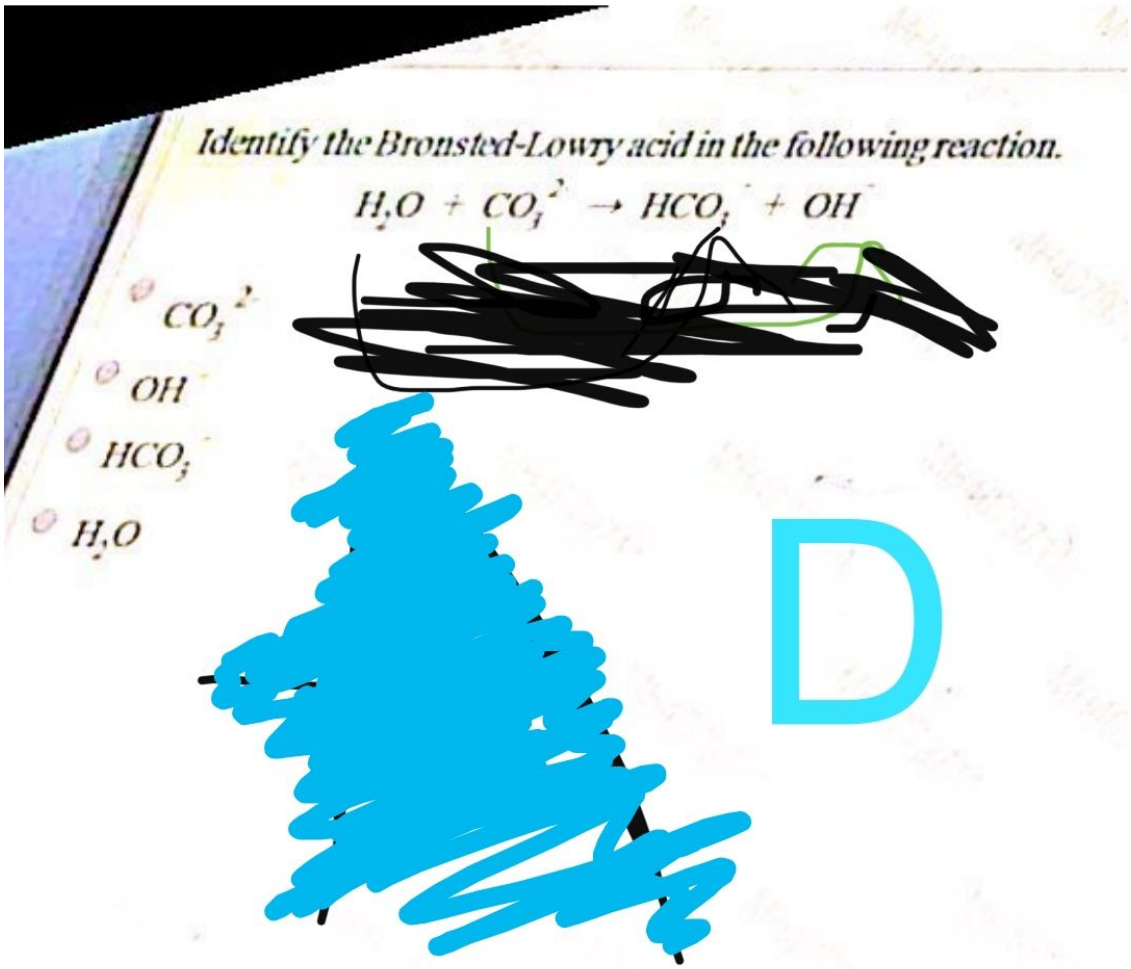

Identify the Bronsted-Lowry acid in the following reaction.
$H_2O + CO_3^{2-} \rightarrow HCO_3^- + OH^-$
CO_3^{2-}
OH^-
HCO_3^-
H_2O
D

Total questions in exam: 40 | Answered: 13

Question No. 17

What is the oxidation number of sulfur in SO_3^{2-}?

- +2
- -2
- +4
- +6

Question No. 13

Refer to the reaction shown below. Removing sulfur dioxide as it is formed will

$$2H_2S\,(g) + 3O_2\,(g) \rightleftharpoons 2SO_2\,(g) + 2H_2O\,(g)$$

- shift the reaction to the left
- shift the reaction to the right
- have no effect
- cannot be determined, since the temperature is unknown

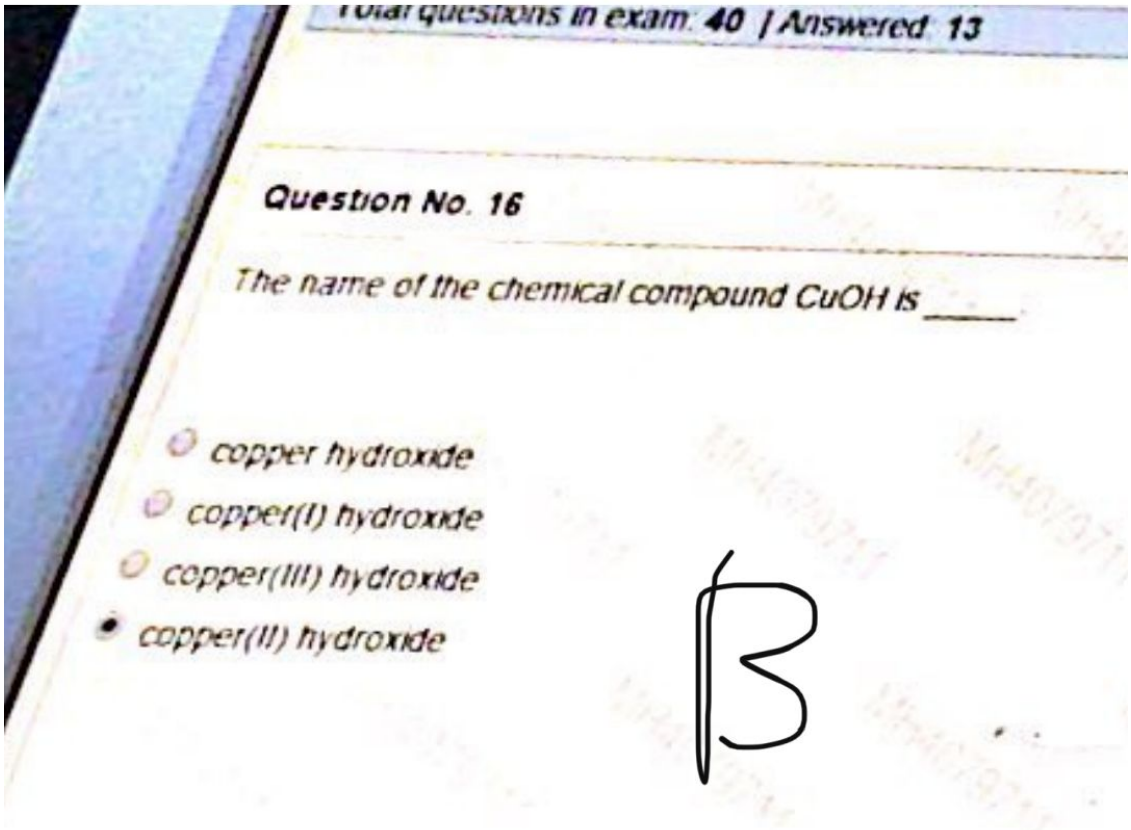
B

Question No. 14

Identify the conjugate base of HPO_4^{-2} in the reaction

$$HCO_3^- + HPO_4^{-2} \leftrightarrow H_2CO_3 + PO_4^{-3}$$

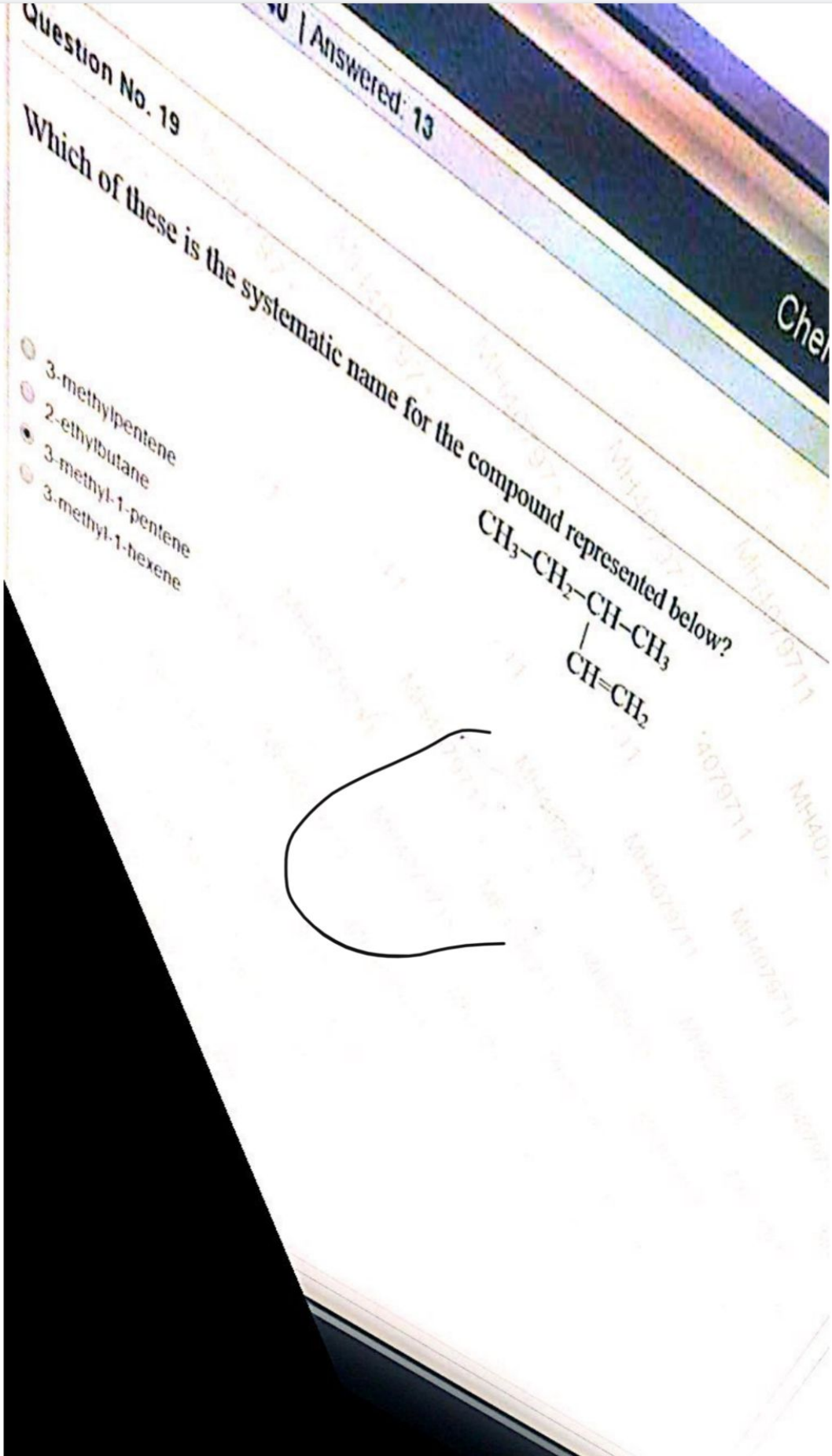
- HCO_3^-
- H_2O
- H_2CO_3
- PO_4^{-3}

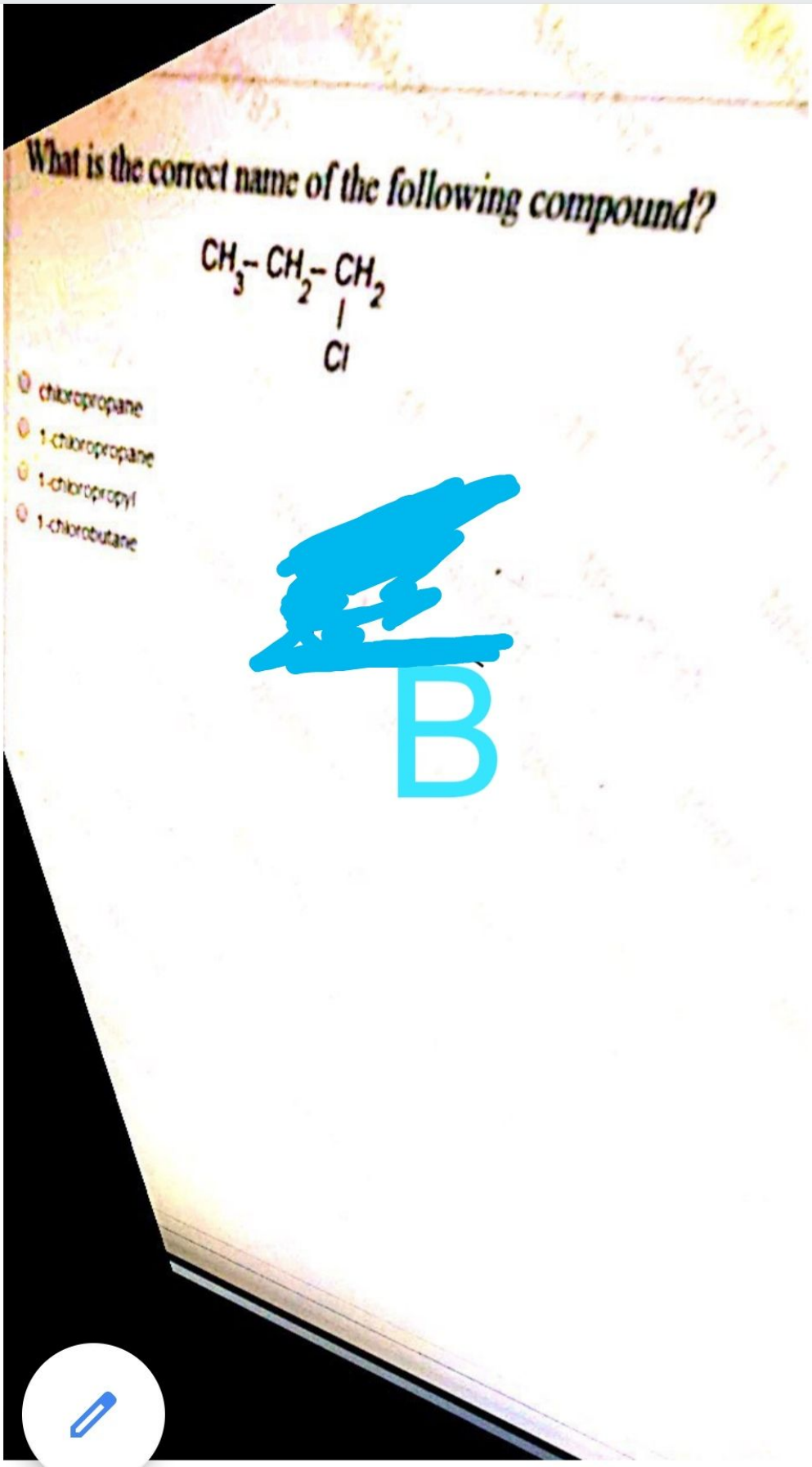

Total questions in exam: 40 | Answered: 13
Question No. 16
The name of the chemical compound CuOH is _____.
copper hydroxide
copper(I) hydroxide
copper(III) hydroxide
copper(II) hydroxide
B

Question No. 10

The molecular formula for the hydrocarbon "butane" is _____.

- C_5H_{12}
- C_6H_{14}
- C_4H_{10}
- C_4H_8



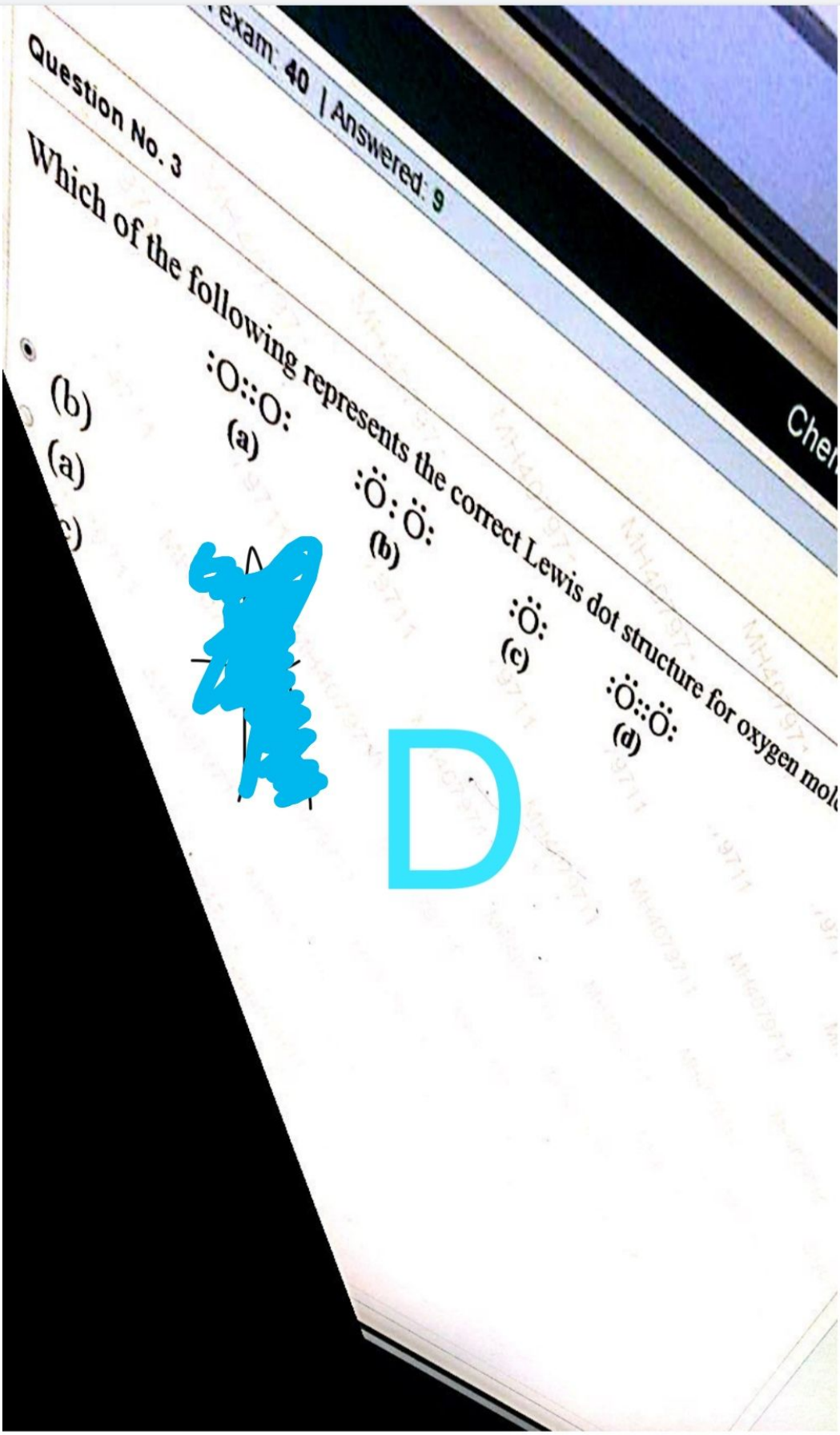


Question No. 11

If a drain cleaning solution has a pH = 13, this solution is _____.

- weakly acidic
- strongly acidic
- strongly basic
- weakly basic

Save & Next حفظ والتالي



Question No. 7

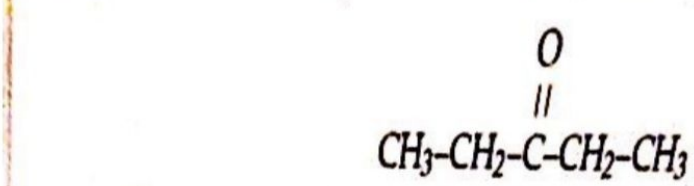
The molar mass of $C_3H_8O_2$ is

- 76 g/mol
- 42 g/mol
- 32 g/mol
- 69 g/mol

A

Question No. 8

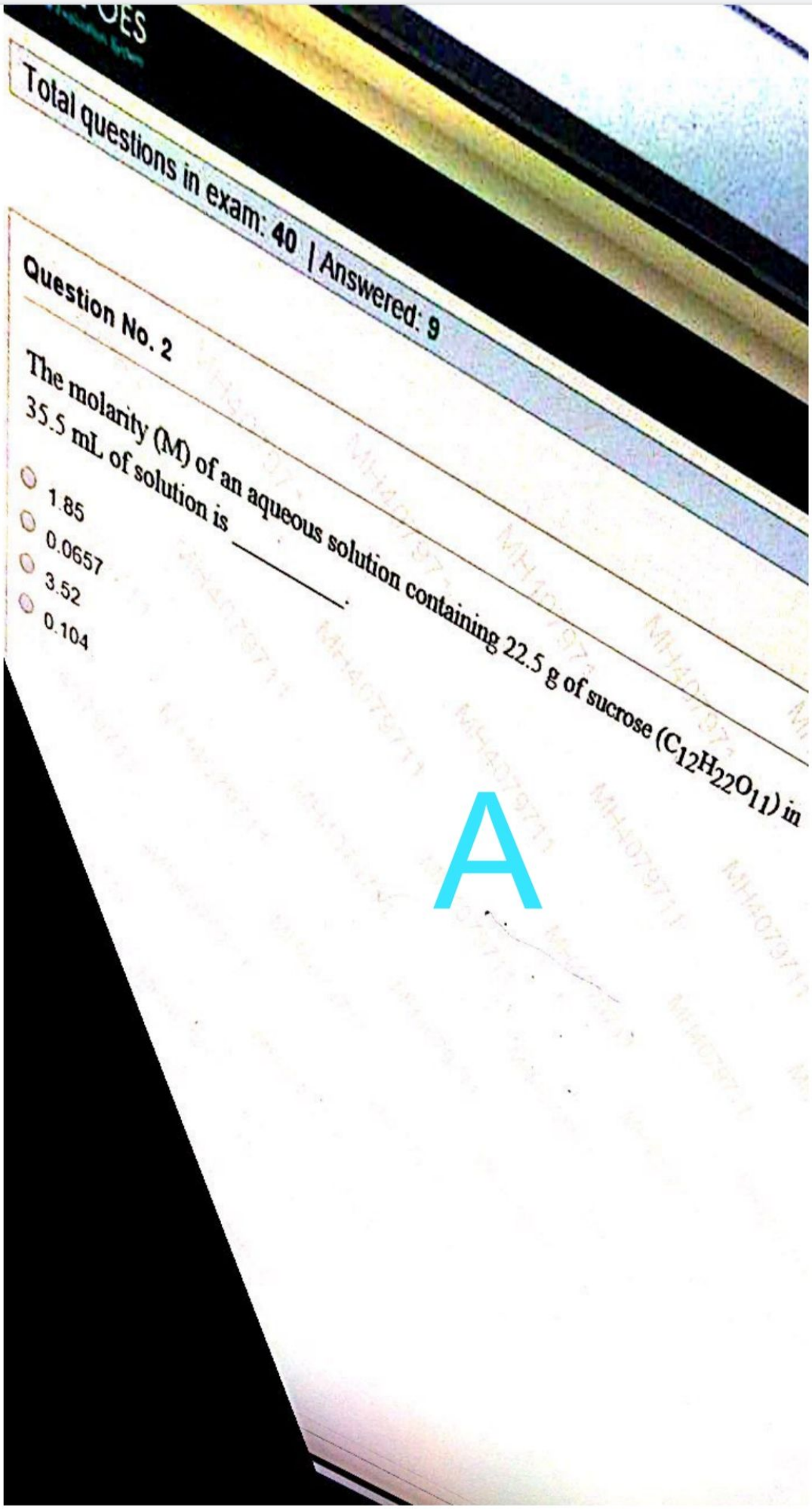
To which family does the following organic compound belong?



- alcohol
- aldehyde
- ketone
- ether

C

uestion No. 11



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Question No. 5

Identify an ionic bond

- Electrons are shared
- Protons are lost
- Electrons are transferred
- Protons are gained

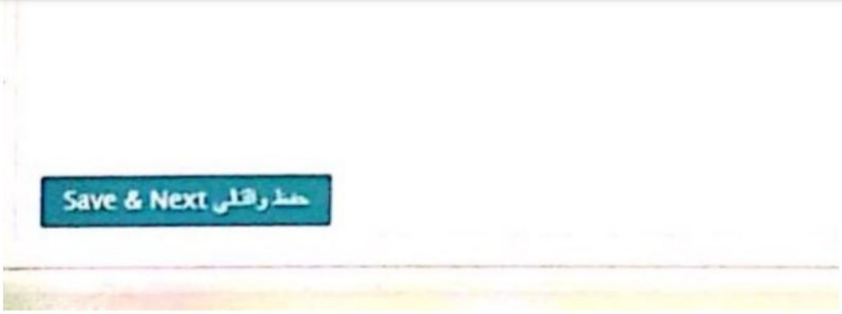
Calculator

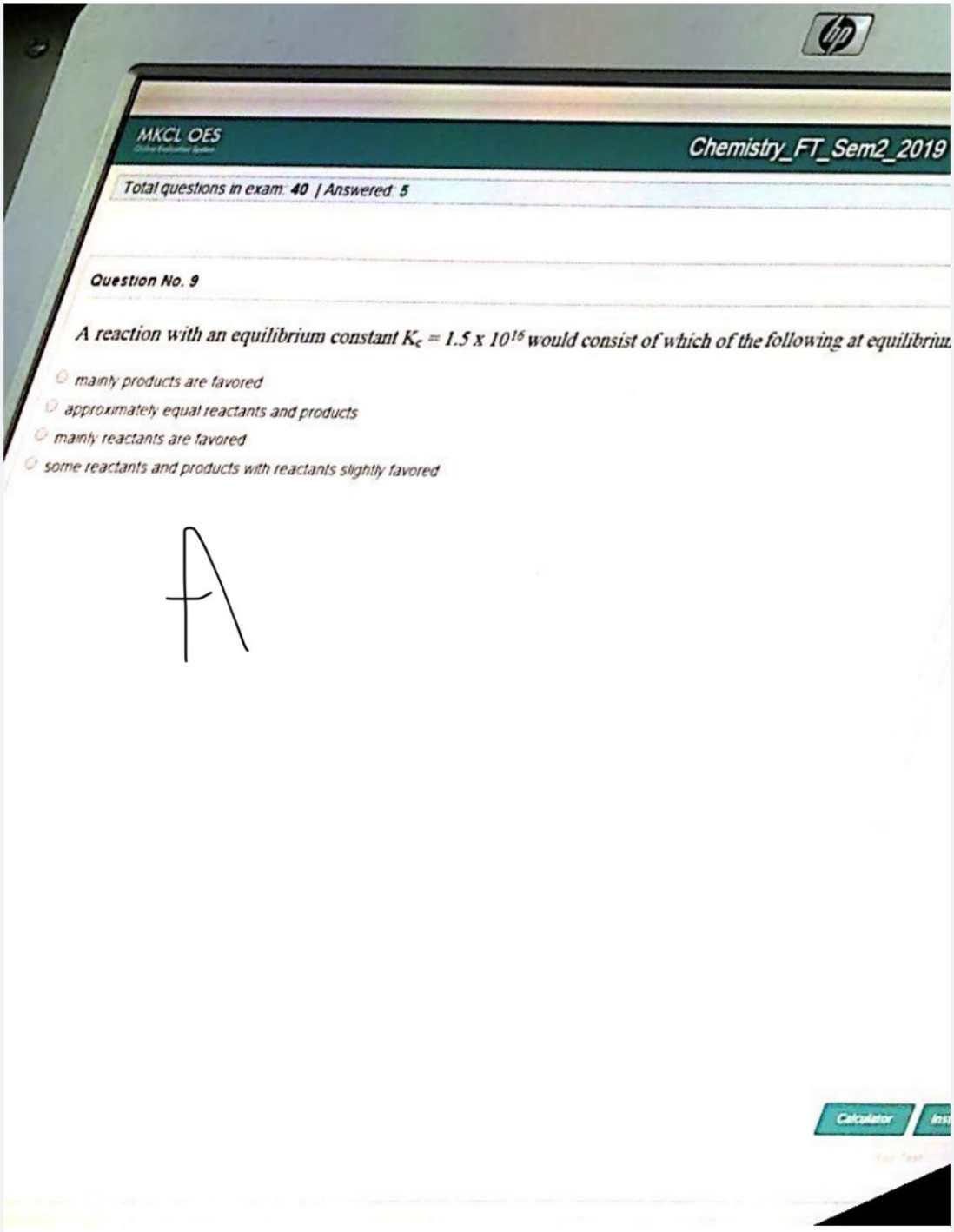
Identify the Bronsted-Lowry acid in the following reaction.

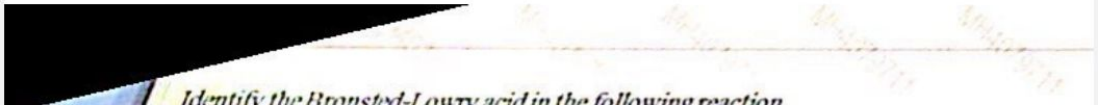
$$H_2O + CO_3^{2-} \rightarrow HCO_3^- + OH^-$$

- CO_3^{2-}
- OH^-
- HCO_3^-
- H_2O

Total questions in exam: **40** | Answered: **9**







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Total questions in exam: 40 | Answered: 9

Question No. 4

Two mole of any substance contains _____ particles?

- 12.044×10^{24}
- 6.022×10^{23}
- 1.20×10^{24}
- 3.011×10^{24}

C

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If a rain-water sample has a pH = 5.8, this sample is _____.

- weakly acidic
- strongly acidic
- weakly basic
- neutral

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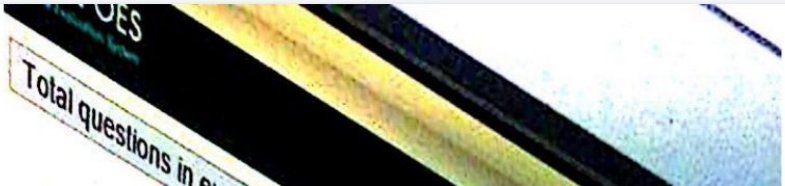
Total questions in exam: **40** | Answered: **9**

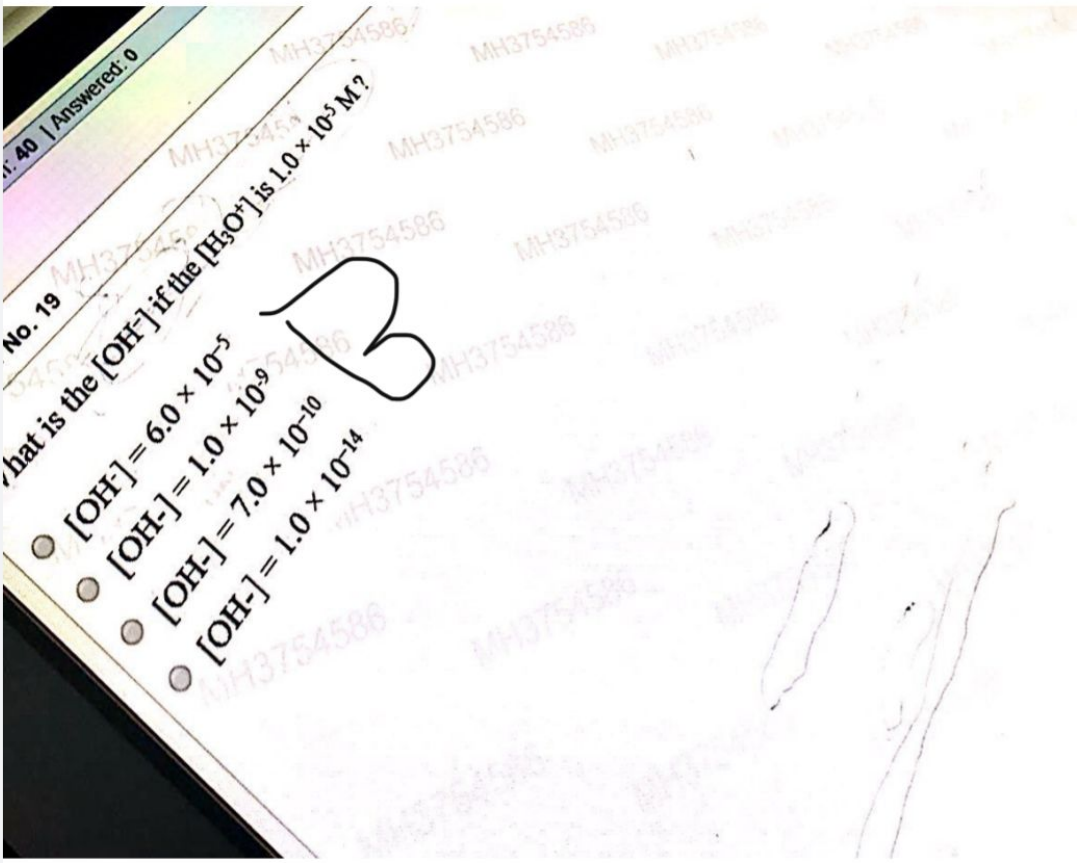
Question No. 1

When a system is at chemical equilibrium _____.

- the rate of the forward reaction is small compared to the reverse.
- the rate of the forward reaction is equal to the rate of the reverse.
- the rate of the reverse reaction is small compared to forward.
- the amounts of product and reactant are exactly equal.

B





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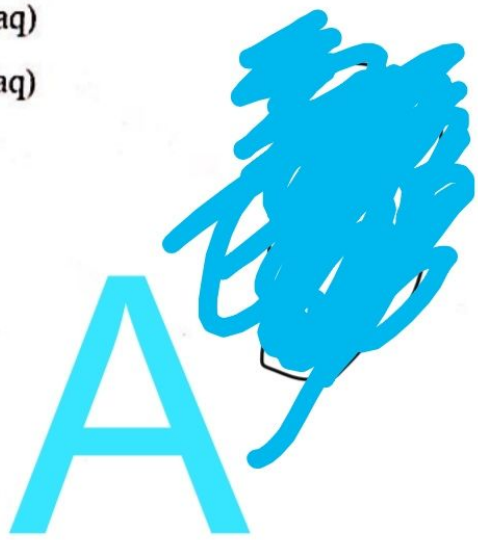
Total questions in exam: **40** | Answered: **0**

Question No. 2

Identify the conjugate base in the following reversible reaction.

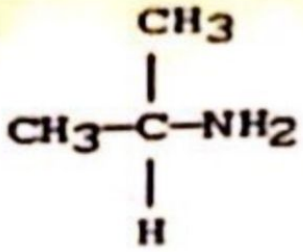
$$HF(aq) + HSO_3\text{-}(aq) \leftrightarrow F^-(aq) + H_2SO_3(aq)$$

- $F^-(aq)$
- $HF(aq)$
- $H_2SO_3(aq)$
- $HSO_3\text{-}(aq)$



Save & Next

The compound below is an



- acid
- ester
- amine
- amide

C

rain-water sample has a pH = 5.8, this sample is _____.