

الإدارة المركزية للتعليم العام
مكتب تنمية مادة العلوم

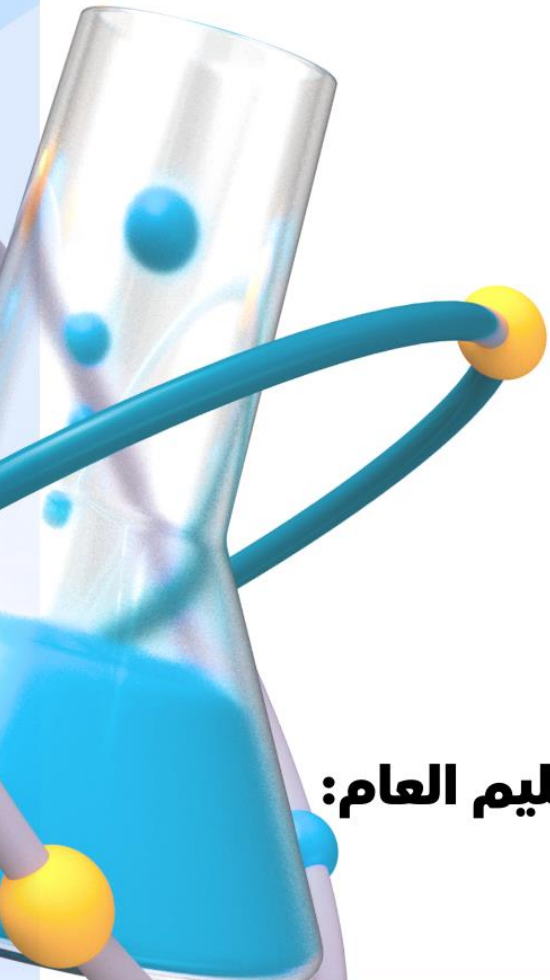


CHEMISTRY

2nd secondary

Second term

HOME PERFORMANCE



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2026

week

6

Home performance (Week 6)

Q1/ choose the correct answer:-

1- Which of the following is an ore of two elements from (S) block?

- (a) Halite ore (b) Carnallite ore
(c) Sylvite (d) Apatite

2- Which of the following expresses the electronic structure of alkali elements?

- (a) $(n-1) d^{10}, nS^1$
(b) nS^1
(c) nS^2
(d) np^1

3- Three alkali metals (X-Y-Z) when burned in pure oxygen produce the following oxides: $(ZO_2 - Y_2O_2 - X_2O)$

-Which of the following is correct?

- (a) Element (Z) is likely to be (Rb)
(b) $X > Y > Z$ (according to their chemical activity)
(c) $X > Y > Z$ (their oxidation numbers)
(d) X_2O is considered an oxidizing agent

4- Three unknown salts X, Y, and Z were exposed to a non-illuminated flame, and The observations were as follows:

X: The flame turned crimson red.

Y: The flame turned golden yellow.

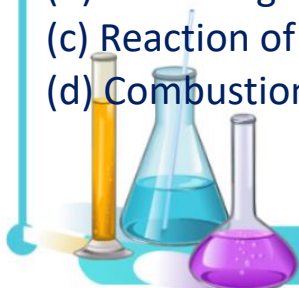
Z: The flame turned light purple.

- Which of the following choices represent the salts (Z, Y, X)?

- A) X: Sodium chloride, Y: Lithium chloride, Z: Potassium chloride.
B) X: Lithium chloride, Y: Sodium chloride, Z: Potassium chloride.
C) X: potassium chloride, Y: sodium chloride, Z: lithium chloride
D) X: lithium chloride, Y: potassium chloride, Z: sodium chloride

5- Which of the following reactions does not produce oxygen gas?

- (a) Dissolving KO_2 in hydrochloric acid
(b) Dissolving RbO_2 in water
(c) Reaction of potassium superoxide with carbon dioxide gas
(d) Combustion of lithium metal in oxygen, then dissolving the product in water



6- Which of the following expresses the oxidation number of the metal (M) in its superoxide (MO_2)?

- (a) $\frac{1}{2}+$ (b) $1+$ (c) $\frac{1}{2}-$ (d) $2-$

7- Element (X) is an alkali metal that burns in oxygen to form an oxide containing The anion O^{2-}

-Which of the following represents element (X) or the resulting oxide?

- a) The small ionic size of ion (X) prevents it from forming other oxides.
 b) The oxidation number of element (X) in the oxide ($2+$)
 c) Element (X) is used in the manufacture of photoelectric cells
 d) The resulting oxide is a strong oxidizing agent

8- Which of the following choices expresses the correct order of alkali metal According to their strength as reducing agents?

- a) $\text{Rb} < \text{K} < \text{Na} < \text{Li}$ b) $\text{Li} < \text{K} < \text{Na} < \text{Rb}$
 c) $\text{Na} < \text{Rb} < \text{K} < \text{Li}$ d) $\text{Li} < \text{Na} < \text{K} < \text{Rb}$

9- Dry test can be used to detect alkali metals in their salts, where each of them emits light with a wavelength and frequency specific to each element.

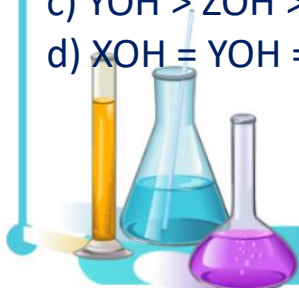
-Which of the following expresses the reason for the emission of the characteristic spectrum of each element?

- a) Excitation of electrons in their atoms from a lower energy level to a higher Energy level.
 b) Return of excited electrons to their ground energy levels.
 c) Transfer of electrons from their atoms to the atom of a non-metallic element to form salt.
 d) Transfer of electrons in their atoms from the (ns) level to the (np) level.

10- Three consecutive elements (Z, Y, X) are in group 1 (1A). The one with the lowest atomic number is (X). Element (Z) burns in pure oxygen under pressure to produce an oxide containing the anion (O_2^{1-}).

- Which of the following expresses the correct order of the hydroxides of these elements according to alkaline property?

- a) $\text{XOH} > \text{YOH} > \text{ZOH}$
 b) $\text{ZOH} > \text{YOH} > \text{XOH}$
 c) $\text{YOH} > \text{ZOH} > \text{XOH}$
 d) $\text{XOH} = \text{YOH} = \text{ZOH}$



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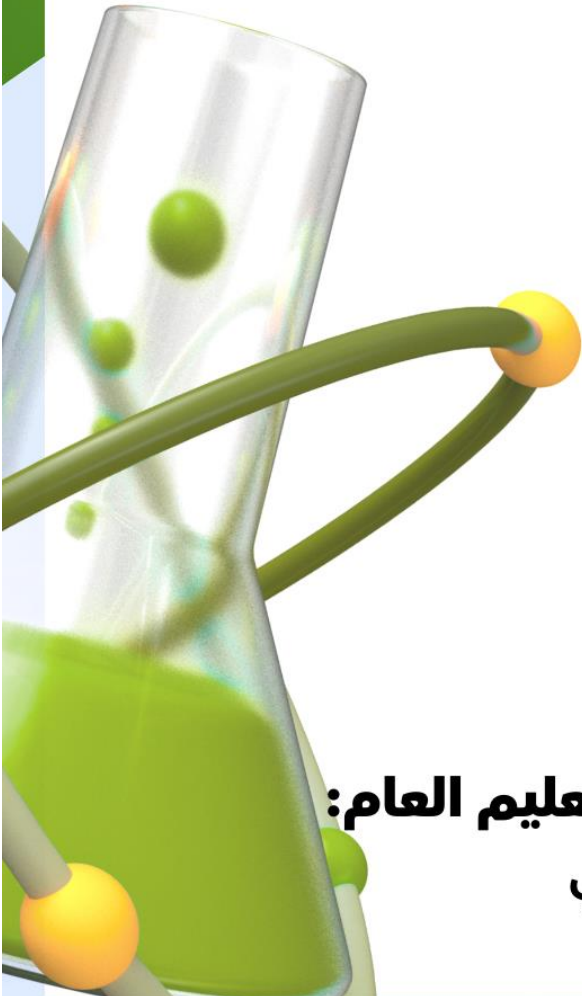


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WEEKLY ASSESSMENTS



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Weekly assessment (Week-6)

A

Q1/ State the scientific reason:

1. Potassium superoxide (KO₂) is considered a strong oxidizing agent?

.....

.....

Q2/ The following table shows the electronic distribution of three elements from group (1A).

Electronic configuration	Element
[He] 2s ¹	A
[Ne] 3s ¹	B
[Ar] 4s ¹	C

- Using the table above:

- 1- Which of the above elements can form an oxide that plays a role in purifying The air of carbon dioxide?
- 2- Which of the above elements can be extracted from Halite ore?

Q3- Choose the correct answer:

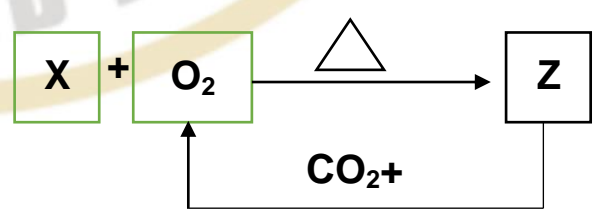
1-It is difficult to obtain oxide (M₂O₂) from burning one of alkali metals (M) With pure oxygen.

- Which of the following choices represents element M?**
- a) It is in the second period and, when burned, produces an oxide with an Oxidation number of oxygen = 2-
 - b) It is in the third period and, when burned, produces an oxide with an Oxidation number of oxygen = 1-
 - C) It is in the second period and is considered the biggest atomic radius in its group
 - d) It is located in the third period d) and is considered the smallest atomic radius In its group

2-From the corresponding diagram:

Which of the following choices represent Element (X) and compound (Z)?

- A) X: Sodium metal, Z: Sodium superoxide.
- B) X: Potassium metal, Z: Potassium superoxide.
- C) X: Lithium metal, Z: Lithium oxide.
- D) X: Rubidium metal, Z: Rubidium carbonate.



B

Q1/ State the scientific reason:

2- Potassium superoxide can be used to purify enclosed spaces from carbon dioxide gas.

Q2/ The following table shows the electronic distribution of three elements from group (1A).

Electronic configuration	Element
[Ar] 4s ¹	A
[Kr] 5s ¹	B
[Xe] 6s ¹	C

- Using the table above:

- 1- Which of the above elements its oxide (MO₂) dissolves in water and Produces the strongest alkali?.....
- 2- Which of the above elements can be extracted from Carnallite ore?

Q3- Choose the correct answer:

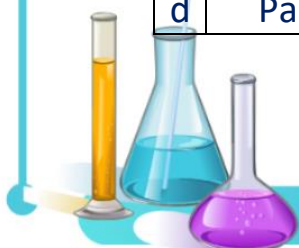
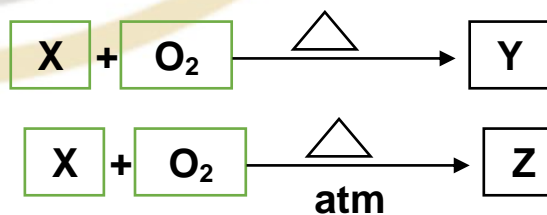
1- Element (M) of the first group, when exposed to a non-illuminated flame, Turns blue -violet-

-Which of the following options describes element M?

- a) It is in the third period and ranks sixth in abundance in nature.
- b) It is in the fourth period and when burned in pure oxygen, produces an oxide with Oxidation number of oxygen (1-)
- c) It is in the sixth period and ranks sixth in abundance in nature.
- d) It is in the sixth period and is used in photoelectric cells

2- Using the following diagram, which of the following choices represents the color of spectrum of element (X) and the formula of compounds (Y) and (Z)?

	Spectrum of (X)	Z	Y
A	Golden yellow	NaO ₂	Na ₂ O ₂
B	Pale violet	KO ₂	K ₂ O ₂
C	crimson	Li ₂ O ₂	Li ₂ O
d	Pale violet	K ₂ O ₂	KO ₂



C

Q1/ State the scientific reason:

1-Cesium metal is used in photoelectric cells.

Q2/ The following table shows the electronic distribution of three elements from group (1A).

Electronic configuration	Element
[Ne] 3s ¹	A
[Ar] 4s ¹	B
[Kr] 5s ¹	C

- Using the table above:

- 1-Which of the following elements requires a high temperature of up to 300°C To react with oxygen to form oxide (M₂O₂)
- 2- Which of the above elements are difficult to extract from their ores due to Their low concentration and high extraction costs?

Q3- Choose the correct answer:

1-Element (M) from the group (1A) can be extracted from halite ore.

-Which of the following represents element (M)?

- A) Located in the third period and ranks sixth in abundance in nature.
- B) Located in the fourth period and ranks seventh in abundance in nature.
- c) Located in the third period and its oxide is used to purify air from CO₂
- d) Located in the fourth period and is used in photoelectric cells

2-From the corresponding diagram:



-Using the previous diagram, which of the following expresses the electronic distribution of element (M) and the formula of compound (Y)?

	Electronic configuration of (M)	Formula of (Y)
A	[He] 2s ¹	Li ₂ O
B	[Ne] 3s ¹	Na ₂ O ₂
C	[Ar] 4s ¹	KO ₂
d	[Kr] 5s ¹	RbO ₂

