

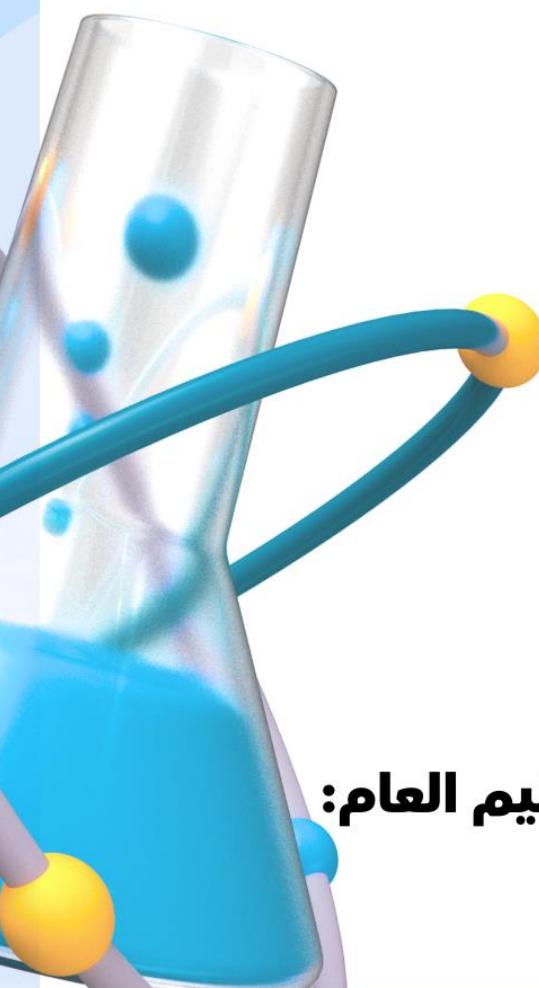


CHEMISTRY

2nd secondary

Second term

HOME PERFORMANCE



إعداد:

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د. هالة عبدالسلام خفاجي



2026

week

2



Home performance (Week 2)

Q1/ choose the correct answer:-

1-Which electron arrangement for the outer shell electrons in a covalent compound is correct?

- (a) $\begin{array}{c} \times\!\times \\ \text{H} \cdot \text{x} \cdot \text{Cl} \cdot \\ \cdot \cdot \end{array}$

(b) $\begin{array}{c} \times\!\times \\ \times\!\text{H} \cdot \text{x} \cdot \text{Cl} \cdot \\ \times\!\times \\ \cdot \cdot \end{array}$

(C) $\begin{array}{c} \cdot \cdot \\ \text{H} \cdot \text{x} \cdot \text{N} \cdot \text{x} \cdot \text{H} \\ \cdot \cdot \\ \text{H} \end{array}$

(d) $\begin{array}{c} \text{H} \cdot \text{x} \cdot \text{N} \cdot \text{x} \cdot \text{H} \\ \cdot \cdot \\ \text{H} \end{array}$

2- Which of the following molecules has a central atom that does not reach the electronic configuration of a noble gas and is surrounded by the largest number of bond pairs?

- (a) BF_3 (b) PCl_5 (C) SF_6 (d) PCl_3

3- Which of the following choices represents a nonpolar molecule with the largest number of lone pairs?

- (a) CH_4 (b) N_2 (c) CO_2 (d) HCl

4-Which of the following statement about a molecule NH_3 , is correct?

- (a) Each hydrogen atom donates a pair of electrons to a nitrogen atom
 - (b) There are double covalent bonds between the nitrogen atom and the hydrogen Atom
 - (C) There are single covalent bonds between its hydrogen atoms
 - (d) There are three shared pairs of electrons in the molecule

5- Which of the following choices explains the polarity of hydrogen chloride molecules?

- (a) Complete transfer of electrons to the chlorine atom.
 - (b) Displacement of the electron cloud toward the more electronegative atom
Without complete transfer.
 - (c) The difference in electronegativity between hydrogen and chlorine is 0.4.
 - (d) The linear spatial shape of the molecule.





6- Which of the following molecules has the highest solubility in polar solvents such as water?

- (a) CH_4
- (b) Cl_2
- (c) CO_2
- (d) NH_3

7- Which Lewis dot structure represents bonding in potassium iodide?

- (a) $\text{K}^+ [\text{:}\ddot{\text{I}}\text{:}]^-$
- (b) $[\text{:}\ddot{\text{K}}\text{:}]^- \text{I}^+$
- (c) $\text{K}:\ddot{\text{I}}:$
- (d) $\ddot{\text{K}}:\text{I}$

8- The idea behind “covalent drugs” in treating viruses is based on:

- (a) Forming temporary ionic bonds with the virus protein.
- (b) Covalent bonding with the virus protein to inhibit its action.
- (c) Increasing the molecular mass of the virus to make it easier to detect.
- (d) Breaking covalent bonds within the infected cell.

9-The device used to estimate the molecular mass of a covalent drug before and after it binds to the virus protein is:

- (a) An electron microscope.
- (b) A mass spectrometer.
- (c) An atomic absorption spectrometer.
- (d) A sensitive balance.

10- Which of the following reactions is expected to be the “fastest” under standard conditions?

- (a) The reaction of hydrogen gas molecules with chlorine gas molecules to form a Polar HCl molecule.
- (b) The reaction of sodium chloride (NaCl) solution with silver nitrate solution to form A precipitate.
- (c) The reaction of a covalent drug with a viral protein to form a permanent covalent Bond.
- (d) The reaction of methane gas (CH_4) with oxygen (combustion).



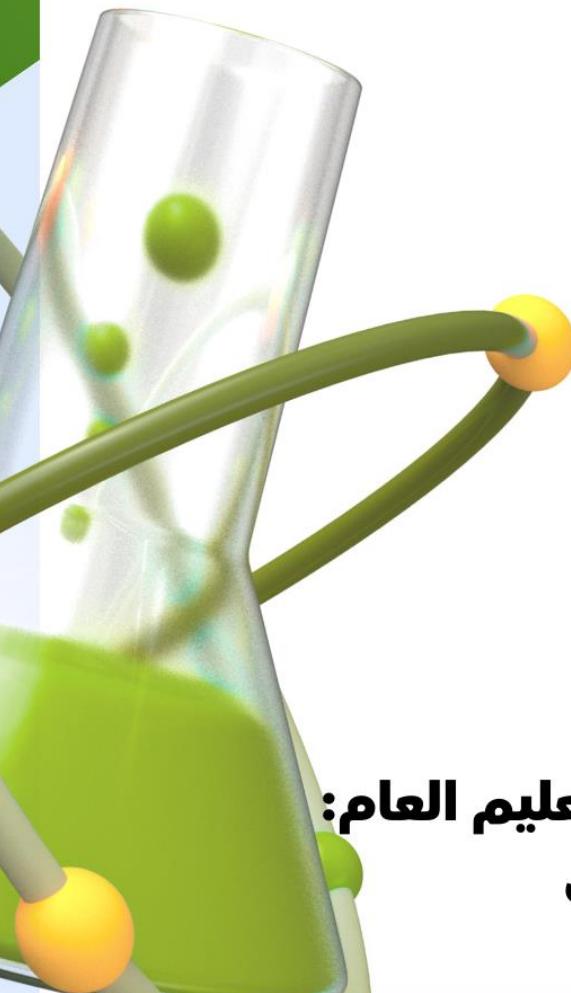


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WEEKLY ASSESSMENTS



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Weekly assessment (Week-2)

A

Q1/ State the scientific reason:

- 1- Most of covalent compound compounds do not conduct electricity.
- 2- Carbon dioxide molecule is nonpolar.

Q2/ Using the following elements ₁₅A, ₁₁B, ₉C, ₆D

- Which of them can form with hydrogen?

- (1) Ionic compound
- (2) Polar covalent compound

Q3/ The diagrams below represent Lewis electron dot- symbols of three different elements:-



-Write the chemical formulas for the possible ionic compounds.

B

Q1/ State the scientific reason:

- 1- Most covalent compounds are characterized by low boiling and melting points.
- 2- Boron trifluoride molecule is nonpolar.

Q2/ Using the following elements ₁₅A, ₁₁B, ₉C, ₆D

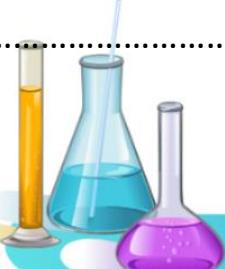
- Which of them can form with hydrogen?

- (1) Non-polar covalent compound
- (2) Covalent compound whose molecule contains three bond pairs and one lone pair

Q3/ The diagrams below represent Lewis electron dot- symbols of three different elements:-



-Write the chemical formula for a molecule contains 10 lone pairs of electrons
And 3 bond pairs



C

Q1/ State the scientific reason:

- 1- Hydrogen chloride molecule polar is
- 2- Ammonia gas dissolves in water to a greater extent than carbon dioxide gas.

Q2/Using the following elements ₁₅A, ₁₁B, ₉C, ₆D

- Which of them can form with hydrogen?

- (1) Covalent compound whose molecule contains three lone pairs and one bond pair
- (2) Covalent compound whose molecule contains four bond pairs.....

Q3/ The diagrams below represent Lewis electron dot- symbols of three different elements:-



-Write the chemical formula for a molecule contains 10 lone pairs of electrons and 3 bond pairs

