

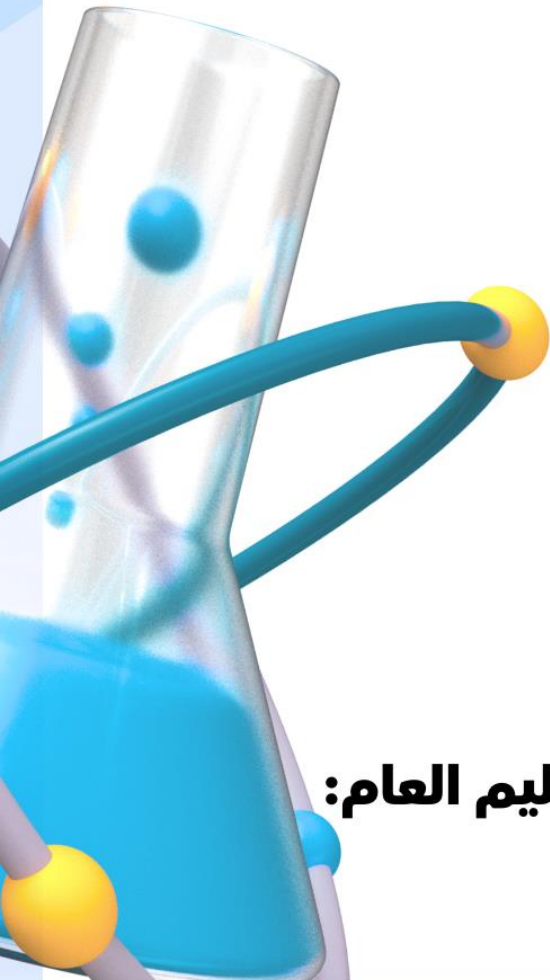
الإدارة المركزية للتعليم العام
مكتب تنمية مادة العلوم



CHEMISTRY

2nd secondary
first term

HOME PERFORMANCE



إعداد:

أ. سامح منصور

أ. عبدالله عبدالواحد

مستشار مادة العلوم:

د. عزيزة رجب خليفة

رئيس الإدارة المركزية للتعليم العام:

د. هالة عبدالسلام خفاجي

2026

week

7

Home performance (Week 7)

Q1/ Choose the correct answer:-

1- All the following are characteristics of electrons, except

- (a) They are material particles.
- (b) They have wave properties.
- (c) They lose energy when they move from one energy level to another.
- (d) They are affected by electric and magnetic fields.

2- Heisenberg's uncertainty principle applies to.....

- (a) Protons.
- (b) Neutrons.
- (c) Electrons.
- (d) All atomic particles.

3- Which of the following choices is saturated with the largest number of electrons?

- (a) orbital of 4f sublevel
- (b) 2P sublevel
- (c) Energy level (n=2)
- (d) 3d sublevel

4. Which of the following formulae can be used to calculate the number of electrons needed to fill the subshell?

- (a) n^2
- (b) $2n^2$
- (c) $2(2\ell+1)$
- (d) $(2\ell+1)$

5-Which of the following choices expresses the four quantum numbers of an electron in the 2Py orbital?

choices	n	ℓ	$m\ell$	m_s
a	2	1	-1	+1/2 or -1/2
b	1	1	0	+1/2 or -1/2
c	2	2	+1	+1/2 or -1/2
d	2	1	0	+1/2 or -1/2

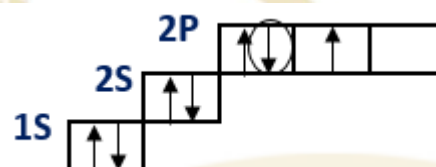


6- Which of the following choices equals the number of orbitals that can be occupied by an electron with principal quantum number ($n=5$) and magnetic quantum number ($m_l = -2$)?

- (a) 1
- (b) 2
- (c) 3
- (d) 4

7- Which of the following choices represents the four quantum numbers for the electron in the circle?

choices	n	ℓ	m_ℓ	m_s
a	1	0	-1	-1/2
b	2	1	-1	-1/2
c	2	1	+1	-1/2
d	2	1	1	+1/2



8- Which of the following choices does not describe the electron cloud and orbital?

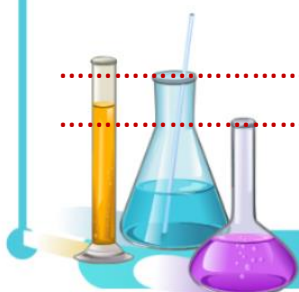
choices	Orbital	Electron cloud
a	The region of space surrounding the nucleus where electrons are most likely to be found 90% to 95% The region of	An area of a region of space surrounding the nucleus where electrons are likely to be found.
b	It has a specific shape and size.	It has a specific shape and size It has no clear and specific boundaries and represents the total distribution of electron density
c	It is part of the electron cloud	It is the sum of all orbitals at an energy level
d	It represents a low probability of the electron being present in a wide range	It represents the highest probability density of the electron being present.



- (a) It contains 3 sublevels.
- (b) It is saturated with 18 electrons.
- (c) Its energy is greater than that of $(n=4)$
- (d) It contains 9 orbitals

10- The number of electrons needed to fill the energy level (P) =.....

- (a) 6
(b) 8
(c) 18
(d) 32



الإدارة المركزية للتعليم العام
مكتب تنمية مادة العلوم



CHEMISTRY

2nd secondary
first term

WEEKLY ASSESSMENTS



إعداد:

أ. سامح منصور

أ. عبدالله عبدالواحد

مستشار مادة العلوم:

د. عزيزة رجب خليفة

رئيس الإدارة المركزية للتعليم العام:

د. هالة عبدالسلام خفاجي

2026

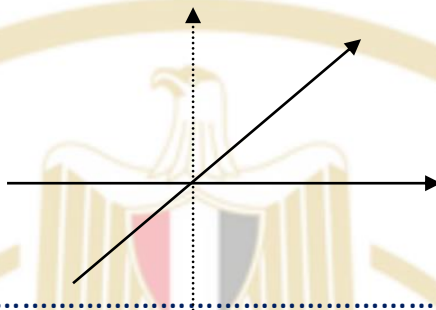
week

7

Weekly assessment (Week-7)

Question (1):-

1- The following figure represents three dimensions (X, Y, Z). Draw the orbital - shapes in the main plane (n=2).



2- Complete the following table:

n	ℓ	$m\ell$	m_s	Orbital
2	1	-1	+1/2	2P ☐ ☐ ☐ (example)
1			-1/2	1S ☐
4	3			 ☐ ☐ ☐ ☐ ☐ ☐
3		-2	+1/2	 ☐ ☐ ☐ ☐ ☐

3- Which one is saturated with a greater number of electrons, energy level (P) or energy level (p)? Why?

.....

.....

.....

.....

.....

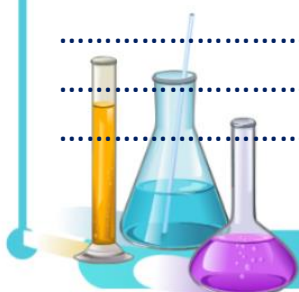
.....

.....

.....

.....

.....



Question (2):- State the scientific reason for each of the following:

1- The rule $2n^2$ does not apply to levels after the fourth.

.....

.....

.....

2- The f sublevel is filled with 14 electrons.

.....

.....

.....

3- There is no (2d) sublevel in the atom.

.....

.....

.....

4- The number of electrons required to fill the principle level can be calculated using the $2n^2$ rule.

.....

.....

.....

Question 3:

1- Write the possible values for Each (ℓ and $m\ell$) for electron (n) = 3.

.....

.....

.....

2- Compare the second and third main energy levels in terms of:

- (a) Their symbols
- (b) The number of electrons needed to saturate each
- (c) Their sublevels
- (d) The number of orbitals in each
- (e) Their radius
- (f) Their energy

.....

.....

.....

.....

.....

