الإدارة المركزية للتعليم العام
مكتب تنمية مادة العلـــــوم

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

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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?

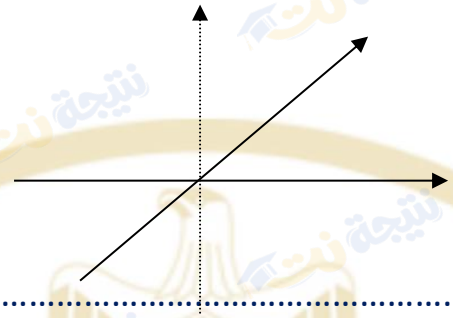
choices	n	ℓ	$m\ell$	m_s
a	2	1	-1	+1/2 or -1/2
b	1	1	0	+1/2 or -1/2
c	2	2	+1	+1/2 or -1/2
d	2	1	0	+1/2 or -1/2



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Question (2):-

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 (3):- 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.

.....

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WEEKLY ASSESSMENTS



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Weekly assessment (Week-7)

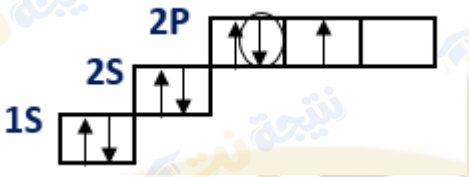
Q1/ Choose the correct answer:-

1- 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 (ml= -2)?

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

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

choices	n	ℓ	$m\ell$	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



3- 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.

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4- All the following describe the energy level (n=3), except ……

(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

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

(a) 6

(b) 8

(c) 18

(d) 32

Question 2:

1-Write the possible values for Each (ℓ and mℓ) 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

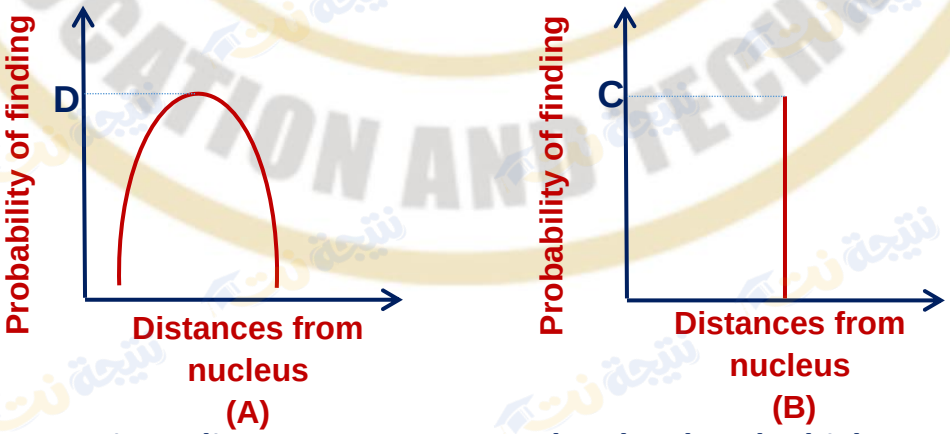
(e) Their radius

(f) Their energy

……

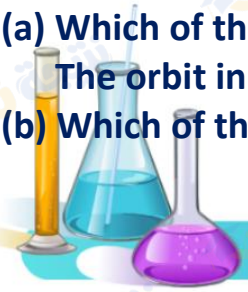
……

3 - Study the following diagrams and then answer:-



(a) Which of the previous diagrams represents the cloud and which represents The orbit in Bohars model?

(b) Which of the values (C) or (D) can equal 100% and why?



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