

**O Level Combined Chemistry MCQs**

**Atomic Structure Test 1.0**

Q1

A nucleus is represented by the symbol  ${}_{37}^{81}X$ .

What does this nucleus contain?

- A 37 electrons and 44 neutrons
- B 37 neutrons and 81 protons
- C 37 protons and 44 neutrons
- D 37 protons and 81 neutrons

Q2

Which of the following particles contains 12 neutrons, 11 protons and 10 electrons?

- A  $O^{2-}$       B  $F^{-}$       C Ne      D  $Na^{+}$

Q3

Which statement about an atom is correct?

- A Each element has only one nucleon (mass) number.
- B The nucleon (mass) number can be less than the proton (atomic) number.
- C The nucleon (mass) number can equal the proton (atomic) number.
- D The number of neutrons never equals the number of electrons.

Q4

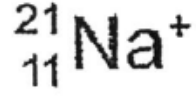
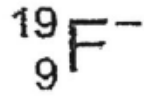
An atom of element X is represented by  ${}_{3}^{7}X$ .

Which statement about this atom of X is correct?

- A It is in Group III of the Periodic Table.
- B It is in Group VII of the Periodic Table.
- C The total number of protons and electrons is 6.
- D The total number of protons and neutrons is 10.

Q5

The symbols for two ions are shown.



Which statement is correct?

- A The fluoride ion contains more electrons than the sodium ion.
- B The sodium ion contains more neutrons than the fluoride ion.
- C The two ions contain the same number of electrons as each other.
- D The two ions contain the same number of protons as each other.

Q6

An element, D, has  $p$  protons and  $n$  neutrons in its nucleus.

Which row gives a possible correct number of protons, neutrons and electrons in a positive ion of an isotope of D?

	protons	neutrons	electrons
A	$p$	$n$	$p + 1$
B	$p$	$n + 1$	$p - 1$
C	$p + 1$	$n$	$p + 1$
D	$p + 1$	$n + 1$	$p - 1$

Q7

An atom of element M is represented by  ${}_{19}^{39}\text{M}$ .

Which statement about this atom of M is correct?

- A It is in Group I of the Periodic Table.
- B It is in Group VII of the Periodic Table.
- C The number of neutrons is 19.
- D The total number of protons and electrons is 39.

Q8

Particle X has 3 protons, 4 neutrons and 3 electrons.

Particle Y has 3 protons, 4 neutrons and 2 electrons.

Which statement best describes particle Y?

- A Particle Y and particle X are not atoms of the same element.
- B Particle Y has a larger relative atomic mass than particle X.
- C Particle Y is an ion of particle X.
- D Particle Y is an isotope of particle X.

Q9

The nucleon number of an isotope of strontium is 90.

How many protons, neutrons and electrons are present in the ion formed by this isotope?

	protons	neutrons	electrons
A	40	50	40
B	38	52	38
C	38	52	36
D	40	50	42

Q10

The nucleon number of an isotope of bromine is 81.

How many protons, neutrons and electrons are present in an atom of this isotope?

	protons	neutrons	electrons
<b>A</b>	35	46	35
<b>B</b>	35	46	46
<b>C</b>	37	44	35
<b>D</b>	37	44	37

**Answers**

**Atomic Structure Test 1.0**

Q1 C

Q2 D

Q3 C

Q4 C

Q5 C

Q6 B

Q7 A

Q8 C

Q9 C

Q10 A

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