The Nuclear Model of the Atom

Question Paper

Course	CIE IGCSE Physics
Section	5. Nuclear Physics
Topic	The Nuclear Model of the Atom
Difficulty	Easy

Time Allowed 10

Score /5

Percentage /100

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Question 1

Hydrogen is an element with one proton. It has three different isotopes.

Which statement about the three Hydrogen isotopes is correct?

A. They must have different numbers of electrons orbiting their nucleus.

B. They must all have one proton in their nuclei.

C. They must all have one neutron in their nuclei.

D. They must all have the same number of nucleons in their nucleus.

[1 mark]

Question 2

The nuclide notation for a generic element is given below:

$${}^{A}_{Z}\mathbf{X}$$

Which of the following is the correct definition of each of the terms?

	X	A	Z
A	symbol	nucleon number	proton number
B	symbol	proton number	nucleon number
C	symbol	neutron number	proton number
D	nucleon number	proton number	neutron number

[1 mark]

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Question 3

An atom consists of electrons orbiting a nucleus. The nucleus contains protons and neutrons.

For the atom to be neutral, which statement about the atom **must** be correct?

A. The number of electrons is equal to the number of protons.

B. The number of protons is equal to the number of neutrons.

C. The number of electrons, protons and neutrons are all different.

D. The number of electrons is equal to the number of neutrons.

[1 mark]

Question 4

The charge on an electron is -e.

Which answer below correctly describes the charge of a proton and the charge on a neutron?

	Proton	Neutron
A	0	+e
B	+e	-e
C	+e	0
D	-e	+e

[1 mark]

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Question 5

An isotope of uranium is represented by the symbol:

$$^{235}_{92}\mathbf{U}$$

Which of the answers below could be a different isotope of uranium?

A. $^{235}_{91}\mathrm{U}$

B. $^{238}_{92}\mathrm{U}$

C. $^{92}_{235}\mathrm{U}$

D. $^{235}_{90}\mathrm{U}$

[1 mark]

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