

The Nuclear Model of the Atom

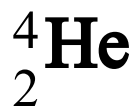
Question Paper

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|------------|-------------------------------|
| Course | CIE IGCSE Physics |
| Section | 5. Nuclear Physics |
| Topic | The Nuclear Model of the Atom |
| Difficulty | Medium |

| | |
|--------------|------|
| Time Allowed | 10 |
| Score | /5 |
| Percentage | /100 |

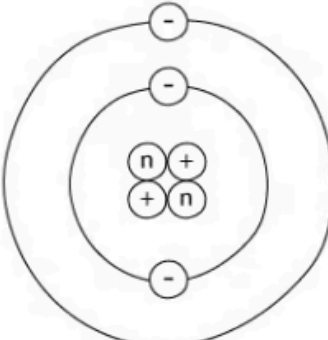
Question 1

An atom of helium has the following nuclide symbol:

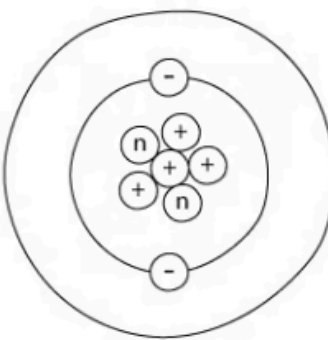


Which of the following diagrams best represents a neutral atom of helium?

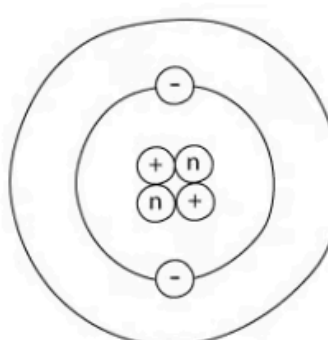
A



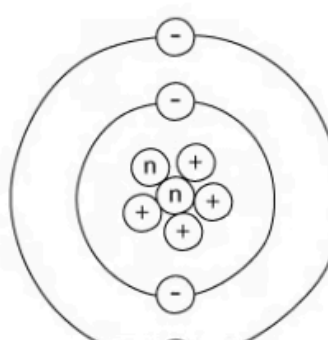
B



C



D



Key

n = a neutron

+ = a proton

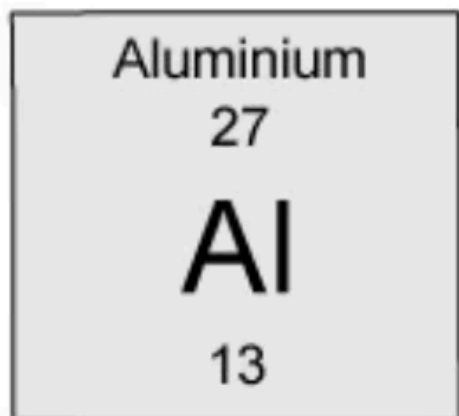
- = an electron

(not to scale)

[1 mark]

Question 2

How many neutrons are in a nucleus of aluminium? The chemical symbol is given below:

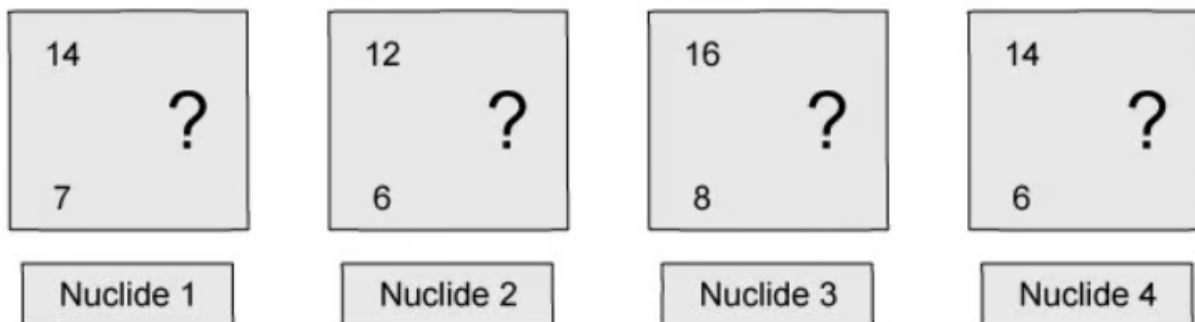


- A. 13
- B. 27
- C. 14
- D. 40

[1 mark]

Question 3

Below are the symbols for four different nuclides.



Which two nuclides are isotopes of the same element?

- A. Nuclide 1 and nuclide 4.
- B. Nuclide 1, nuclide 3 and nuclide 4
- C. Nuclide 2 and nuclide 3
- D. Nuclide 2 and nuclide 4

[1 mark]

Question 4

Which of the following statements would **not** be correct for the nucleus of **any** atom?

- A. The nucleus contains protons and neutrons.
- B. The nucleus has a total charge of zero.
- C. The nucleus is very small compared to the size of the atom.
- D. The atom contains the same number of protons and electrons.

[1 mark]

Question 5

A nitrogen atom loses an electron.

What is it called now?

- A.** An atom
- B.** An isotope
- C.** A negative ion
- D.** A positive ion

[1 mark]