

# Structure of the Atom

## Multiple Choice Questions

Question 1.

In 1906, J.J. Thomson was awarded the Nobel prize for his discovery of:

- (a) Electron
- (b) Proton
- (c) Neutron
- (d) Positron

▼ [Answer](#)

Answer: (a) Electron

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Question 2.

Who discovered the nucleus of an atom?

- (a) J.J. Thomson
- (b) Neils Bohr
- (c) Rutherford
- (d) J. Chadwick

▼ [Answer](#)

Answer: (c) Rutherford

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Question 3.

Who is known as the 'Father of nuclear Physics'?

- (a) J. J. Thomson
- (b) E. Rutherford
- (c) Neils Bohr
- (d) J. Chadwick

▼ [Answer](#)

Answer: (b) E. Rutherford

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Question 4.

An atomic number of an element equals to what present in the nucleus of its atom?

- (a) Protons
- (b) Electrons
- (c) Both of them
- (d) None of them

▼ [Answer](#)

Answer: (a) Protons

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Question 5.

Rutherford's alpha-particle scattering experiment was responsible for the discovery of:

- (a) Atomic nucleus
- (b) Electron
- (c) Proton
- (d) Neutron

▼ [Answer](#)

Answer: (a) Atomic nucleus

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Question 6.

Isotopes of an element have:

- (a) the same physical properties
- (b) different chemical properties
- (c) different number of neutrons
- (d) different atomic numbers

▼ [Answer](#)

Answer: (c) different number of neutrons

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Question 7.

Number of valence electrons in CP ion are:

- (a) 16
- (b) 8
- (c) 17
- (d) 18

▼ [Answer](#)

Answer: (b) 8

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Question 8.

Which one of the following is a correct electronic configuration of sodium?

- (a) 2, 8
- (b) 8, 2, 1
- (c) 2, 1, 8
- (d) 2, 8, 1

▼ [Answer](#)

Answer: (d) 2, 8, 1

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Question 9.

Who used the term 'ATOM' for the first time?

- (a) Rutherford
- (b) John Dalton
- (c) Chadwick
- (d) Bohr

▼ [Answer](#)

Answer: (b) John Dalton

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Question 10.

Which of the following are called nucleon?

- (a) Protons
- (b) Neutrons

- (c) Electrons
- (d) Both, Protons and Neutrons

▼ [Answer](#)

Answer: (d) Both, Protons and Neutrons

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Question 11.

Which of the following particles was discovered first?

- (a) Neutron
- (b) Electron
- (c) Proton
- (d) Meson

▼ [Answer](#)

Answer: (b) Electron

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Question 12.

Which of the following atom does not have the neutron?

- (a) Carbon
- (b) Nitrogen
- (c) Hydrogen
- (d) Helium

► [Answer](#)

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Question 13.

Who gave the name 'Proton' the positively charged particles of an atom?

- (a) Chadwick
- (b) Goldstein
- (c) Rutherford
- (d) John Dalton

▼ [Answer](#)

Answer: (c) Rutherford

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Question 14.

The maximum number of electrons in any shell of an atom is:

- (a)  $n^2$
- (b)  $2n^2$
- (c)  $(n - 1)^2$
- (d)  $3n^2$

▼ [Answer](#)

Answer: (b)  $2n^2$

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Question 15.

Which of the following rays have the maximum penetration power?

- (a)  $\alpha$ -rays
- (b) X-rays
- (c)  $\gamma$ -rays
- (d) Cathod rays

▼ [Answer](#)

Answer: (c)  $\gamma$ -rays

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Question 16.

Who gave the first model of the atom?

- (a) J.J. Thomson
- (b) Chadwick
- (c) Goldstein
- (d) Neils Bohr

▼ [Answer](#)

Answer: (a) J.J. Thomson

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[Fill in the Blanks.](#)

Question 17.

\_\_\_\_\_ are atoms of the same element, which have different mass numbers.

▼ [Answer](#)

Answer: Isotopes

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Question 18.

\_\_\_\_\_ are atoms having the same mass number but different atomic numbers.

▼ [Answer](#)

Answer: Isobars

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Question 19.

Neutrons are present in the nucleus of all atoms, except \_\_\_\_\_

▼ [Answer](#)

Answer: hydrogen

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Question 20.

$\alpha$ -particles are doubly-charged \_\_\_\_\_ ions.

▼ [Answer](#)

Answer: helium

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Question 21.

Neutron was discovered by \_\_\_\_\_

▼ [Answer](#)

Answer: Chadwick

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Question 22.

The neutral particle in the nucleus of an atom is \_\_\_\_\_

▼ [Answer](#)

Answer: neutron

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Question 23.

Atomic number of sodium is \_\_\_\_\_

▼ [Answer](#)

Answer: 11

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Question 24.

The mass of an electron is about \_\_\_\_\_ times, the mass of a hydrogen atom.

▼ [Answer](#)

Answer:  $\frac{1}{2000}$

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True/False.

Question 25.

Sir J.J. Thomson discovered the anode rays.

▼ [Answer](#)

Answer: False

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Question 26.

According to Rutherford, the positive charge of an atom is concentrated in its center.

▼ [Answer](#)

Answer: True

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Question 27.

Elements are defined by the number of protons they possess.

▼ [Answer](#)

Answer: True

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Question 28.

Valency is the combining capacity of an atom.

▼ [Answer](#)

Answer: True

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Question 29.

$\alpha$ -particles have a mass of 2u.

▼ [Answer](#)

Answer: False

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Question 30.

The mass of electrons is considered to be negligible and its charge is plus one.

▼ [Answer](#)

Answer: False

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Question 31.

According to Thomson, an atom consists of a positively charged sphere and the electrons are embedded in it.

▼ [Answer](#)

Answer: True

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Question 32.

The negative and positive charges are equal in magnitude. So, the atom as a whole is electrically neutral.

▼ Answer

Answer: True

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Match the Column.

Question 33.

A	B
1. Discovery of Proton	(i) Deuterium
2. Hydrogen	(ii) 4
3. Valency of Magnesium	(iii) Positive charge
4. Valency of Carbon	(iv) He
5. Symbol of Helium	(v) H
6. Symbol of Hydrogen	(vi) 2
7. Electron	(vii) E. Goldstein
8. Proton	(viii) Negative charge

▼ Answer

Answer:

A	B
1. Discovery of Proton	(vii) E. Goldstein
2. Hydrogen	(i) Deuterium
3. Valency of Magnesium	(vi) 2
4. Valency of Carbon	(ii) 4
5. Symbol of Helium	(iv) He
6. Symbol of Hydrogen	(v) H
7. Electron	(viii) Negative charge
8. Proton	(iii) Positive charge

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Answer in Word/Sentence.

Question 34.

What is the value of charge on a proton?

▼ Answer

Answer:  $1.6 \times 10^{-19}$  coulomb positive charge

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Question 35.

What is the value of charge on an electron?

▼ [Answer](#)

Answer:  $1.6 \times 10^{-19}$  coulomb negative charge

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Question 36.

What is the value of charge on a neutron?

▼ [Answer](#)

Answer: Zero (0) or no charge

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Question 37.

According to Neils Bohr, electrons can revolve only in certain orbits. What name was given by him to these certain orbits?

▼ [Answer](#)

Answer: Discrete orbits of electrons

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Question 38.

According to Bohr-Burry rules, which formula is used to express the maximum number of electrons in an orbit of an atom?

▼ [Answer](#)

Answer:  $2n^2$

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Question 39.

What is the maximum number of electrons in the outermost shell, according to Bohr-Burry?

▼ [Answer](#)

Answer: 8

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