# 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) α-rays
(b) X-rays
(c) γ-rays
(d) Cathod rays

▼ Answer

Answer: (c) γ-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.
α-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.
α-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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