ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Sub:Physical Science **Class: 8** **Date: 10.04.21**

Duration: 40 min **Worksheet 24** **Full Marks: 15**

ATOMIC STRUCTURE/ATOMIC NUMBER AND MASS NUMBER

Choose the Correct options:

Q.1 Which of the following correctly represent the electronic distribution in the Mg atom?

(a) 3,8,1

(b) 2,8,2

(c) 1,8,3

(d) 8,2,2

Q.2 The number of electrons in an element x is 15 and the number of neutrons is 16. Which of the following is the correct representation of the element?

(a) $^{31}_{15}x$

(b) $^{31}_{16}x$

(c) $^{16}_{15}x$

(d) $^{15}_{16}x$

Q.3Which of the following are true for an element?

(i) Atomic number = number of protons + number of electrons

(ii) Mass number = number of protons + number of neutrons

(iii) Atomic mass = number of protons = number of neutrons

(iv) Atomic number = number of protons = number of electrons

(a) (i) and (ii)

(b) (i) and (iii)

(c) (ii) and (iii)

(d) (ii) and (iv)

Q.4 The ion of an element has 3 positive charges. Mass number of the atom is 27 and the number of neutrons is 14. What is the number of electrons in the ion?

(a) 13

(b) 10

(c) 14

(d) 16

Q.5Which of the following statement is always correct?

(a) An atom has equal number of electrons and protons.

(b) An atom has equal number of electrons and neutrons.

(c) An atom has equal number of protons and neutrons.

(d) An atom has equal number of electrons, protons and neutrons

Q.6 An atom of sodium has an atomic number of 11 and a mass number of 23. Which of the following statements is correct?

a) An atom of sodium has 11 protons, 11 electrons, and 11 neutrons.

b) An atom of sodium has 11 protons, 12 electrons, and 11 neutrons.

c) An atom of sodium has 11 protons, 11 electrons, and 12 neutrons.

d) An atom of sodium has 11 protons, 12 electrons, and 12 neutrons.

Q.7 An atom of phosphorus has an atomic number of 15 and a mass number of 31. How many neutrons does it contain?

a) 15

b) 16

c) 31

d) 30

Q. 8 The mass of a single atom of a particular isotope is called which of the following?

a) Its atomic number

b) Its atomic weight

c) Its atomic mass

d) Its relative atomic mass

Q.9 The identity of a chemical element is determined by which of the following?

a) The number of protons it possesses

b) The number of electrons it possesses

c) The sum of the number of protons and neutrons it possesses

d) The sum of the number of protons and electrons it possesses

a) Atomic weight

b) Atomic radii

c) Equivalent weight

d) Atomic number

Q. 11 Number of neutrons in a hydrogen atom is

a) 0

b) 1

c) 2

d) 3

Q. 12 The nitrogen atom has 7 protons and 7 electrons, the nitride ion (N^{3-})will have

a) 7 protons and 10 electrons

b) 4 protons and 7 electrons

c) 4 protons and 10 electrons

d) 10 protons and 7 electrons

Q. 13 The charge of an electron is -1.6×10^{-19}C. The value of free charge on Li^{+}ion will be

a) 3.6×10^{-19}C

b) 1×10^{-19}C

c) 1.6×10^{-19}C

d) $2.6\times10^{-19}C$

Q. 14 Nitrogen atom has an atomic number of 7 and oxygen has an atomic number 8. The total number of electrons in a nitrate(NO_3^-) ion will be

a) 8

b) 16

c) 32

d) 64

Q. 15 Number of protons, neutrons and electrons in the element $^{231}_{89}Y$ is

a) 89, 231, 89

b) 89, 89, 242

c) 89, 142, 89

d) 89, 71, 89