

Choose the Correct Answers:

1) Which of the following statements is (are) *true*?

- 1- Compounds can be separated by physical methods into pure elements.
 - 2- Homogeneous mixtures cannot easily separated by chemical or physical methods.
 - 3- Heterogeneous mixtures can easily be separated by physical methods.
 - 4- Elements can be separated into small particles by physical methods.
- A) 4 only B) 3 only
 C) 2,4 D) 1, 3, 4

2) The density of ethanol, a colorless liquid, is 0.798 g/mL. The mass of 1200 mL of the liquid in kilogram is: $d = \frac{m}{V}$

- A) 958 B) 95.8
 C) 0.958 D) 9.58

3) The SI units of the following values are::

	5cm ³	45 μg	7 hrs	- 18 °C
<input checked="" type="radio"/> A)	5x10 ⁻⁶	4.5x10 ⁻⁸	2.52x10 ⁴	2.55x10 ²
B)	5x 10 ⁻³	4.5x10 ⁻⁸	6.0 x 10 ²	-4.0 x 10 ⁻¹
C)	5x 10 ⁻³	4.5x10 ⁻⁵	3.6 x10 ³	-2.55x10 ²
D)	5x 10 ⁻⁶	4.5x10 ⁻⁸	1.2 x10 ⁻⁸	4.0 x 10 ⁻¹

4) The correct result for: (0.004 + 3.5198 + 0.0118), is:

- A) 3.54 B) 3.53
 C) 3.5356 D) 3.536

5) The correct result for (98.1 x 0.03), is: *1 s.f.*

- A) 3 B) 2.94 C) 3.0 D) 2.9

6) Express 7616000 in scientific notation with 3 significant figures

- A) 7.616 x 10⁻⁶ B) 7.62 x 10⁶
 C) 7.62 x 10⁻⁶ D) 7.616 x 10⁶

7) Three students (X, Y and Z) measured a two gram (2.00g) piece of metal. The set of results for each one (in grams) are as follows:

Student	Reading	Reading	Reading
	(1)	(2)	(3)
X	2.11	2.51	2.80
Y	2.01	1.97	1.99
Z	2.40	2.39	2.38

Which of the following statements is true:

- A) Y readings are accurate and Z are precise
 B) X and Z readings are precise
 C) Y readings are precise and Z are accurate
 D) Z readings are accurate and X are precise

8) Which statement about the atom's nucleus is correct:

- A) Contains protons; neutrons and it is negatively charged.
 B) Contains electrons; neutrons and it is positively charged.
 C) Contains protons; electrons and it is neutral.
 D) Contains protons; neutrons and it is a positively charged.

9) Which of the following (Ca, Mg, I, Pb, H, S, Li, Si, W, O, Xe) is an alkali metal, a halogen, a transition metal and a noble gas ?

The correct answers in order are:

- (A) Li, I, W, Xe B) Ca, I, Pb, Xe
C) Ca, O, W, Xe D) Li, I, Pb, H

10) The correct set of atomic symbol (A_ZX) for each of the following isotopes:

- $Z=8$, number of neutrons = 9
- The isotope of chlorine in which number of neutrons = 20
- $Z = 27$, number of neutrons = 33
- number of protons = 26, number of neutrons = 31

- A) ${}^{16}_8O$ ${}^{37}_{17}Cl$ ${}^{60}_{27}Co$ ${}^{56}_{26}Fe$
(B) ${}^{17}_8O$ ${}^{37}_{17}Cl$ ${}^{60}_{27}Co$ ${}^{57}_{26}Fe$
C) ${}^{17}_8O$ ${}^{35}_{17}Cl$ ${}^{60}_{27}Co$ ${}^{56}_{26}Fe$
D) ${}^{17}_8O$ ${}^{37}_{17}Cl$ ${}^{59}_{27}Co$ ${}^{56}_{26}Fe$

11) Which of the following is **not true**:

	Symbol	Number of Protons	Number of Neutrons	Number of Electrons
A)	${}^{56}_{26}Fe^{3+}$	26	30	23
B)	${}^{35}_{17}Cl^{-}$	17	18	18
C)	${}^{40}_{20}Ca^{2+}$	20	20	18
(D)	${}^{238}_{92}U^{6+}$	92	146	87

12) A is a molecular compound, while is ionic, respectively:

- A) CS_2 ; CCl_4 B) $CsCl$; SiC
(C) SO_2 ; $RbBr$ D) NO_2 ; NH_3

13) The names of the following compounds (Na_3N , FeO) respectively are:

- (A) Sodium nitride and iron (II) oxide.
B) Sodium nitrate and iron oxide.
C) Tri sodium nitride and iron oxide.
D) Sodium nitrate and iron (II) oxide.

14) The name of the oxoacid anion (IO_2^-) is:

- A) Periodate
B) Iodate
C) Hypoiodite
(D) Iodite

15) The name of the compound

($MgSO_4 \cdot 9H_2O$) is:

- A) Magnesium sulfide nonahydrate
(B) Magnesium sulfate nonahydrate
C) Magnesium sulfite nonahydrate
D) Magnesium sulfate decahydrate