

المستوى:-السنة التحضيرية (الثاني)

رقم ورمز المادة:- PCHM124

اسم المادة:- مقدمة في الكيمياء

تاريخ الإمتحان:-17-5-1435

الرقم الجامعي:-

اسم الطالب:-

I. Choose the correct answer for the following: (15 Marks)

1. Substance that cannot be separated into simpler by chemical means is called:

- (a) compound (b) ion
(c) element (d) atom

2. According to Dalton, all matters consists of atoms which:

- (a) extremely small particles (b) indivisible particles
(c) invisible particle (d) all

3. One liter of solution is equal to:

- (a) $1/1000 \text{ dm}^3$ (b) 1000 dm^3
(c) 1 dm^3 (d) 1000 m^3

4. SI- base unit of volume is:

- (a) m^3 (b) dm^3
(b) cm^3 (b) Liter

5. SI- base unit of amount of substance is:

- (a) g (b) amu
(c) mole (d) Kg

6. The mass of unit volume is defined as:

- (a) density (b) velocity
(c) energy (d) pressure

7. Write the following number (1.0×10^{-9}) by one of the following prefixes:

- (a) mega- (b) pico-
(c) nano- (d)) micro-

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8. Which of the following is a chemical change?

- (a) rusting of iron (b) sublime of iodine
(c) melting of ice (d) density increase with temperature

9. The mole of sulphur ($^{32}_{16}\text{S}$) is equal to:

- (a) one atom sulphur (b) one gram sulphur
(c) 16 grams sulphur (d) 32 grams sulphur

10. The number of molecules SO_2 in 0.5 moles is equal to:

- (a) 6.02×10^{23} molecules (b) 3.01×10^{23} molecules
(c) 12.04×10^{23} molecules (d) 1.66×10^{24} molecules

11. The correct chemical formula of chromium sulfate (containing the Cr^{3+} and SO_4^{2-} ions) as follow

- (a) CrSO_4 (b) $\text{Cr}_2(\text{SO}_4)_3$ (c) Cr_2SO_4 (d) $\text{Cr}(\text{SO}_4)_3$

12. If an atom is electrically neutral and has 9 protons, it will also contain 9 _____.

- (a) neutrons (b) nuclei (c) electrons (d) energy levels

13. An atom with an atomic mass number of 238 and atomic number 92 contains

_____ neutrons.

- (a) 259 (b) 92 (c) 146 (d) 238

14. An atom will become an ion with the:

- (a) gain or loss of a proton. (b) gain or loss of an electron.
(c) gain or loss of a neutron. (d) gain or loss of a nucleus.

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15. What is the mass number of an iron atom that has 26 protons and 30 neutrons?

- (a) 56 (b) 28 (c) 26 (d) 2

Part (II)

II. Name the following compounds: (5 Marks)

1. CCl_4
2. $\text{AlCl}_3 \cdot 2\text{H}_2\text{O}$
3. N_2O_4
4. $\text{Ca}(\text{OH})_2$
5. Fe_2O_3

Part (III)

III. Answer the following questions: (10 Marks)

1. Calculate the mass of 5.50 mL of liquid mercury which has a density of 13.6 g/mL at room temperature?

2. The normal body temperature is 37°C , what is it in Fahrenheit and Kelvin?

3. How many grams of Carbon are in 3.45×10^{22} molecules of CO_2 ?

4. Calculate the percent composition of hydrogen (H) in phosphoric acid H_3PO_4 ?

5. Ascorbic acid (vitamin C) cures scurvy. It is composed of 40.92 percent carbon (C), 4.58 percent hydrogen (H), and 54.50 percent oxygen (O) by mass. Determine its empirical formula.

element	C	O	P	S	H
Atomic mass	12	16	31	32	1

Best wishes.....

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