

Make-up Exam 2

There is only one best answer to each question.

- 1) Is the following statement True or False: "In ~~liquid~~^{Solid}, atoms or molecules pack close to each other in fixed locations."
- True
 - False
- 2) Which of the following is NOT a crystalline solid?
- Glass
 - Salt
 - diamond
 - All of the above are crystalline solids
- 3) Which of the following is a liquid matter?
- Helium
 - Diamond
 - Mercury
 - Quartz
- 4) Is the following statement True or False: "Gases always take the shape and volume of their containers."
- True
 - False
- 5) Fill in the blanks with the right words: "Pure substances can themselves be divided into two types: ----- and -----"
- Elements and molecules
 - Atoms and molecules
 - Elements and compounds
 - Compounds and mixtures
- 6) Fill in the blank with the right word: "The characteristics that distinguish one substance from another are called -----."
- Molecules
 - Properties
 - Significant notations
 - Composition

- 7) Which of the following is NOT a mixture?
- a. A flame
 - b. Apple juice
 - c. Water → *Compound*
 - d. Salad dressing
- 8) Which of the following is a physical property?
- a. Corrosiveness
 - b. Acidity
 - c. Toxicity
 - d. Boiling point
- 9) Is the following statement True or False? "Burning is a physical change."
- a. True
 - b. False
- 10) Fill in the blank with the right word: "In an ----- reaction, energy is absorbed."
- a. Exothermic
 - b. Endothermic
 - c. Isobaric
 - d. Isochoric
- 11) Which of the following is NOT a unit of energy?
- a. Joules
 - b. Calorie
 - c. Kilowatt-hour
 - d. All of the above are units of energy
- 12) Which of the following has the highest specific heat?
- a. Lead
 - b. Gold
 - c. Water
 - d. Aluminum
- 13) What is the coldest temperature possible?
- a. 0 K
 - b. 0 °F
 - c. 0 °C
 - d. All of the above are the same number and they represent absolute zero

14) Is the following equation correct or incorrect?

$$\text{Heat} = \text{Mass} \times \text{Specific Heat Capacity} \times \text{Pressure Change}$$

~~Pressure~~
Temperature

- a. Correct
- b. Incorrect

15) Fill in the blanks with the right words: "Thomson discovered that ----- are negatively charged, that they are much ----- and lighter than atoms, and they are uniformly present in many different kinds of substances."

- a. electrons, bigger
- b. protons, bigger
- c. electrons, smaller
- d. protons, smaller

16) What are the constituents of atomic nucleus?

- a. Electrons and protons
- b. Electrons, protons, and neutrons
- c. Electrons and neutrons
- d. Protons and neutrons

17) What are the proton, neutron, and electron's charges?

- a. Proton=0, electron=1-, neutron=1+
- b. Proton=1+, electron=1-, neutron=0
- c. Proton=1-, electron=1+, neutron=0
- d. Proton=0, electron=1+, neutron=1-

18) Is the following statement True or False?" The group 7A elements, the halogens, are very reactive metals." ~~metals~~ nonmetals

- a. True
- b. False

19) What are ions?

- a. Charged particles
- b. Mixtures which have lost or have gained electrons
- c. Metals and non-metals
- d. All of the above

20) What are isotopes?

- a. Atoms with the same number of protons and electrons
- b. Atoms with the same number of neutrons but different number of protons
- c. Atoms with the same number of protons but different number of neutrons
- d. Atoms with the same number of atomic charges

21) What does the following equation represent?

$$\begin{aligned} & (\text{Fraction of isotope 1} \times \text{Mass of isotope 1}) + \\ & (\text{Fraction of isotope 2} \times \text{Mass of isotope 2}) + \\ & (\text{Fraction of isotope 3} \times \text{Mass of isotope 3}) + \dots \end{aligned}$$

- a. Atomic number
- b. Atomic charge
- c. Atomic mass
- d. Formula mass

22) What is the mass of an electron and a proton?

- a. Electron = 0.00091×10^{-27} kg, Proton = 1.67262×10^{-27} kg
- b. Electron = 1.67262×10^{-27} kg, Proton = 0.00091×10^{-27} kg
- c. Electron = 0.00091×10^{-27} , Proton = 0.00091×10^{-27} kg
- d. Electron = 1.67262×10^{-27} kg, Proton = 1.67262×10^{-27} kg

23) Fill in the blank with the suitable word: "Each ----- within the periodic table is a family or group of elements. The elements within a family of main-group elements usually have similar properties, and have a name group"

- a. Column
- b. Alkali metals
- c. Row
- d. Period

24) Which of the following is NOT correct?

- a. Electrical charge is a fundamental property of protons and electrons.
- b. Positive and negative electrical charges attract each other.
- c. Positive-positive charges repel each other.
- d. Negative-negative charges attract each other.

25) The modern periodic table of elements lists all known elements according to what quantity?

- a. Relative mass
- b. Atomic charges
- c. Atomic mass
- d. Atomic number