

Make-up Exam 2

There is only one best answer to each question.

- 1) Fill in the blank with the right word: "Matter is ultimately composed of -----, submicroscopic particles that are the fundamental building blocks of matter."
 - a. compounds
 - b. substances
 - c. hydrogen
 - d. atoms

- 2) Is the following statement True or False: "Although neighboring atoms or molecules in a solid may vibrate or oscillate, they do not move around each other, giving solids their familiar fixed volume and rigid shape."
 - a. True
 - b. False

- 3) Which of the following is NOT an amorphous solid?
 - a. Glass
 - b. Salt
 - c. Rubber
 - d. Plastic

- 4) Which of the following is NOT a liquid matter?
 - a. Water
 - b. Alcohol
 - c. Diamond
 - d. Mercury

- 5) Is the following statement True or False: "In liquid water, the water molecules are closely spaced but are free to move around and past each other."
 - a. True
 - b. False

- 6) Fill in the blank with the right word: "We can classify matter according to its -----: elements, compounds, and mixtures"
 - a. State
 - b. Composition
 - c. Substance
 - d. Reactivity

- 7) Which of the following is NOT a mixture?
- a. Apple juice
 - b. Water
 - c. A flame
 - d. Salad dressing
- 8) Which of the following is NOT a physical property?
- a. Odor
 - b. Acidity
 - c. Color
 - d. Melting point
- 9) Is the following statement True or False? "A chemical change results in a different form of the same substance, while a physical change results in a completely new substance."
- a. True
 - b. False
- 10) What are the two major components of our universe?
- a. Matter and energy
 - b. Hydrogen and oxygen
 - c. Force and energy
 - d. Chemistry and mathematics
- 11) Which of the following is NOT a unit of energy?
- a. Newton
 - b. Joules
 - c. Calorie
 - d. Kilowatt-hour
- 12) Which of the following has the highest specific heat?
- a. Water
 - b. Lead
 - c. Gold
 - 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 statement True or False: "The colder an object, the more thermal energy it contains."
- a. True
 - b. False
- 15) Fill in the blanks with the right words: "Thomson proposed that the negatively charged ----- were small particles held within a ----- charged sphere. This model, the most popular of the time, became known as the plum pudding model."
- a. electrons, positively
 - b. protons, negatively
 - c. electrons, negatively
 - d. protons, positively
- 16) What are the constituents of atomic nucleus?
- a. Electrons and protons
 - b. Electrons and neutrons
 - c. Protons and neutrons
 - d. Electrons, protons, and neutrons
- 17) What are the proton, neutron, and electron's charges?
- a. Proton=1+, electron=1-, neutron=0
 - b. Proton=1-, electron=1+, neutron=0
 - c. Proton=0, electron=1-, neutron=1+
 - 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."
- a. True
 - b. False
- 19) What are ions?
- a. Charged particles
 - b. Atoms which have lost or have gained electrons
 - c. Cations and anions
 - d. All of the above
- 20) What are isotopes?
- a. Atoms with the same number of neutrons but different number of protons
 - b. Atoms with the same number of protons but different number of neutrons
 - c. Atoms with the same number of protons and electrons
 - 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) Fill in the blank with the suitable word: "We can predict the ----- acquired by a particular element when it ionizes from its position in the periodic table relative to the noble gases."

- a. Mass
- b. Weight
- c. Color
- d. Charge

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

24) Which of the following is NOT a metal?

- a. Iron
- b. Magnesium
- c. Oxygen
- d. Sodium

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

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