Questions

Chapter 1 Chem 101

1) **Which of the following is SI base unit of time?**

   a- year b- second c-hour d- meter

2) **Which of the following is a crystalline solid?**

   a-NaCl b-glass c- plastic d-CO_2

3) **..... is the abbreviation for the prefix mega.**

   a- k b-m c- M d- n

4) **-Which of the following is a homogenous mixture?**

   a- wet sand b- vegetable soup c- blood d- water

5) **The SI unit of temperature is……**

   a- K b- °C c- °F d- t

6) **Which of the following is a compound?**

   a- helium b-pure water c-sand d-soup

7) **Which of the following is a liquid at room temperature?**

   a- gasoline b- hydrogen c- diamond d- sodium

8) **Water is an example of ----------**

   a-compound b-heterogeneous mixture c-element d-homogeneous mixture

9) **Which of the following is length SI unit?**

   a- meter b-kilogram c-second d-kelvin

10) The following prefix 10^{-3} means?

a-kilo b-deci c-centi d-milli

11) Sugar with tea is an example of ----------

a-substance b-heterogeneous mixture c-element d-homogeneous mixture

12) Condensation refers to which conversion?

a- solid $\rightarrow$ gas b-solid $\rightarrow$ liquid c-gas $\rightarrow$ liquid d-gas $\rightarrow$ solid

13) The SI prefixes giga and micro represent by ……

a-10^{-9} and 10^{-6} b-10^{6} and 10^{-3} c-10^{3} and 10^{-3} d-0^{9} and 10^{-6}

14) Plastic considered…… solid material

a-crystalline b-amorphous c-liquid d-gas

15) Glass Considered ……..Solid material

a-crystalline b-amorphous c-liquid d-gas

16) Diamond considered ……..solid material

a-crystalline b-amorphous c-liquid d-gas

17) Sodium chloride considered……..solid material

a-crystalline b-amorphous c-liquid d-gas

18) Air considered ……

a. Homogenous mixture of gases b. Heterogenous mixture of gases

c. element d. pure substance

19) Carbon dioxide considered

a. Homogenous mixture of gases b. Heterogenous mixture of gases

c. element d. pure substance

20) Wet sand considered

a. Homogenous mixture of gases b. Heterogenous mixture of gases

c. element d. pure substance

21) The SI unit of time is

a-meter b-kilometer c-second d-ampere

22) The SI unit of electric current is

a-meter b-kilometer c-second d-ampere

23) The factor 10-9 corresponds to which prefix?

a-centi b-milli c-micro d-nano

24) Rusting of iron is considered as ---------- .

a- physical change b- chemical change c- physical property d- chemical property

25) Tendency of iron to rust is a ---------- .

a- physical change b- chemical change c- physical property d- chemical property

26) The evaporation of rubbing alcohol is a ----------

a- physical change b- chemical change c- physical property d- chemical property

27) The bleaching of hair with hydrogen peroxide is a

a- physical change b- chemical change c- physical property d- chemical property

28) The ability of lamp oil to burn is a ----------

a- physical change b- chemical change c- physical property d- chemical property

29) The forming of frost is a ----------

a- physical change b- chemical change c- physical property d- chemical property

30) Which of the following statements describes a chemical property?

a-iron has a tendency to rust

b-rainwater in industrialized regions tends to be acidic.

c-Hemoglobin molecules have a red color.

d-When a glass of water is left out in the sun, the water gradually disappears.

31) All of the following considered pure substance except

a-Co b-CO c-H_2O d-CO_2

32) All of the following considered homogeneous mixture except

a-tea with sugar b-sugar with water
c-oil with water d-lemon Juice

33) All of the following considered SI base unit except

a-Kg b-meter c-second d-celsius

34) All of the followings are physical changes, except

a- evaporation of rubbing alcohol b- forming of frost on cold night
c- burning of lamp oil d- smell of gasoline

35) All of the followings are physical changes, except

a- odor of paint thinner b- shining of gold and silver

c- flammability of propane gas d- tendency of ethyl alcohol to burn

36) In the following list, only _____ is not an example of a chemical change.

a- burning a plastic water bottle b-the production of hydrogen gas from water
c- the tarnishing of a copper penny d- forming of frost on cold night

37) In the following list, only ___ is not an example of a chemical change.

a-the rusting of iron b- the condensation of water vapor
c-a burning candle d- the formation of polyethylene from ethylene

38) Which of the following is not SI base unit?

a-mole b-g c-K d- meter

39) An element cannot _____.

a-be part of a heterogeneous mixture
b- be part of a homogeneous mixture
c-be separated into other substances by chemical means
d- interact with other elements to form compounds

40) What is 0.000000027 expressed in scientific notation?

a-2.7×10^{8} b-2.7×10^{-7} c-27×10^{-9} d- 2.7×10^{-8}

41) Choose the largest value of the following

a-0.1 kg b-200 g c-$2X\ 10^{-3}\ \mu g$ d-$3\ X\ 10^{9}$ ng

42) Of the following, _____ is the smallest mass.

a-55 kg b-55 mg c- 55 pg d-55 fg

43) Of the following, _____ is the largest mass.

a-25 kg b-2.5×10^{-2} mg c-2.5×10^{15} pg d-2.5×10^{9} ng

44) Which one of the following is the highest temperature?

a-38 °C b- 96 °F c- 302 K d-none of the above

45) The freezing point of water at 1 atm pressure is _____.

a-0 °F b-0 K c-32 °F d-273 °C

46) 1 nanometer = _____ picometers

a-1000 b-0.1 c-0.01 d-1

47) 1 kilogram = _____ milligrams

a-1×10^{-6} b-1,000 c-10,000 d-1,000,000

48) 1 picometer = _____ centimeters

a-1×10^{10} b-1×10^{-10} c-1×10^{-12} d-1×10^{-8}

49) 80ºF is equivalent to …….

a- 359.55 K b- 86.4 ºC c- 26.67 ºC º d- 353.15 K

50) A temperature of _____ K is the same as 63 ˚F.

a-17 b-276 c-290 d-29

51) Convert 433kg into mg

a-$1.245X10^{5}$ mg b-$11.2 X 10^{9}$ mg c-9.245 mg d-$433X\ 10^{6}$

52) How many dm in 515 km?

a- 5.15×10^{3} b-5.15×10^{4} c-5.15×10^{6} d-5.15×10^{-3}

53) How many meters in 2.3 nm?

a-2.3×10^{9} b- 2.3×10^{8} c- 2.3×10^{-9} d- 2.3×10^{-8}

54) How many kg in 2.3 ng?

a-2.3×10^{3} b- 2.3×10^{12} c- 0.23×10^{-11} d- 2.3×10^{-9}

55) What is the density of a piece of wood that has a mass of 20 g and a volume of 2 cm^3?

a-9.45 $g.cm^{-3}$ b-10.00 $g.cm^{-3}$ c-19.45 $g.cm^{-3}$ d-40.00 $g.cm^{-3}$

56) Osmium has a density of 22.6 g/cm^3. What volume (in cm^3) would be occupied by a 21.8 g sample of osmium?

a- 0.965 b-1.04 c-493 d- 2.03×10^{-3}

57) Iron has a density of 7.9 g/cm^3. What is the mass of a cube of iron with the length of one side equal to 55.0 mm?

a-2.1×10^{4} g b-4.3×10^{2} g c-1.3×10^{3} g d-1.4 g

58) What is the density of an object that has a mass of 149.8g and a volume of 12.1 cm3

a-0.45g/cm^3 b-12.38 g/cm^3 c-9.45 g/cm^3 d-9.00 g/cm^3

59) The density of Piece of metal is 8.65g/cm^3, when express the density in a unit of kg/m^3, it will be equal

a-8.65X 10^{-6} kg/m^3 b-5.15 X 10^{4} kg/m^3 c-8.65 X 10^{3} kg/m^3 d-8.65 kg/m^3

60) What is the mass of a liquid has 417 mL volume and 1.11 g/cm^3 density?

a- 462.87 g b- 62.87 g c- 50 g d-100 g

61) If 586 g of bromine occupies 188 cm^3, what is the density of bromine in g/ cm^3?

a-31.2 g/ cm^3 b-0.312 g/ cm^3 c-4.53 g/ cm^3 d-3.12 g/ cm^3

62) Bromine is a red liquid at 25°C. Its density is 3.12 g/cm^3. What is the volume of 28.1 g of liquid bromine?

a-87.7 cm^3 b- 0.111 cm^3 c-9.01 cm^3 d-28.1 cm^3