Chemistry

Mark all the correct answers. There is always at least one!

Analysis by mass of a certain compound shows that it contains 14 percent hydrogen and 86 percent carbon. Which of the following is the most informative statement that can properly be made about the compound on the basis of these data?

a) It is a hydrocarbon.
b) Its empirical formula is CH₂.
c) Its molecular formula is C₂H₄.
d) Its molar mass is 28 g/mol.

The following compounds are classified as polysaccharides:

a) Cellulose
b) Starch
c) Lactose
d) Glycogen

The maximum number of electrons that can exist in the 4th principal level is:

a) 8
b) 18
c) 32
d) 10

Perchloric acid is:

a) HClO
b) HClO₂
c) HClO₃
d) HClO₄

Select the correct statement:

a) an acid is a proton acceptor
b) a base is a proton acceptor
c) an acid is a proton donor
d) a base is a proton donor
Which disaccharide has the incorrect monosaccharide component listed by it:

a) Maltose – mannose and glucose
b) Lactose – galactose and glucose
c) Sucrose – fructose and glucose
d) Cellobiose – two glucoses

**Aromatic compounds undergo halogenation by:**

a) dehydrogenation
b) hydration
c) substitution
d) oxidation

**Co-enzymes:**

a) are frequently derivatives of vitamins
b) are indispensable for function of some enzymes
c) are organic molecules
d) are ions of transitive metals

**1 mole is**

a) the number of particles
b) 1 g of nuclide $^{12}$C
c) defined by Avogadro constant
d) a weight unit

**Dissolving a compound in water:**

a) ions get surrounded with hydration shell
b) molecules of nitrogen do not interact with molecules of water
c) inorganic salts dissociate to anions and cations
d) non-polar compounds cannot be dissolved at all