King Saud University

Applied Medical Science

Clinical Laboratory Department /1st mid-term exam (CLS101)

Student Name: Student No.

**Fill in the blanks: 5 marks**

**1.** The first energy level, the closest to the nucleus, can hold only \_\_\_\_\_\_electrons, while the second energy levelcan hold \_\_\_electrons. ( 2, 8)

**2.** In periodic there are \_\_\_\_\_\_\_\_groups and \_\_\_\_\_\_\_periods. (18,7)

**3.** The bond that formed between one water molecule and another water molecule called\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ( H bond)

**4.** The Molecular weight of water \_\_\_\_\_\_\_\_\_ (18)

**5.** The example of proteins from animal sources is \_\_\_\_\_\_\_\_\_\_ ( meat)

**6.** The Density of water at 4ºC is  \_\_\_\_\_\_g/ml (1 g/ml)

**7.**When the concentration of H+ ions in a solution is 10-12, the pH is \_\_\_\_\_\_\_ (12)

**8.** When an atom loses an electron it is a \_\_\_\_\_\_\_\_\_charge (positive)

1. **A.    Write True (T ) or False (F): 5 marks**

**1.** The solvent can dissolve the solute (      T      )

**2.** All atoms of a given element are different (   F         )

**3.** Isotopes are atoms of a given elements that differ in the number of neutrons (   T       )

**4.** Water is stable as a gas at standard temperature and pressure(  F  )

**5.** Sodium hydroxide (NaOH) is base (        T    )

**6.** 2 amino acids joined by a peptide bond are calledTripeptide ( F )

**7.** Lipoproteins is the example of simple protein (  F  )

**8.** The bonding in metal elements is called metallic bonding (  T  )

**9.** Emulsion is a mixture consists of two or more liquids that do not mix( T )

**10.** The air is example of a mixture ( T )

1. **A.    Circle the correct answer. 10 marks**

**1.  A Suspensions is  (b)**

**a.** Heterogeneous, clear, and settle

**b.** Heterogeneous, and not clear

**c.** Homogenous, and Do not pass through filter paper

**2.    The basic formula of amino acid is (a)**

**a**. (NH2CHRCOOH)

**b.** (NH2CHRCOOH2)

**c**. (NH2CH2RCOOH)

**3.  A water molecule is (a)**

Polar molecule

**b**.non polar  molecule

**c.** None of the above

**4.  The exposing water to air for a considerable period of time is (b)**

**a.** Sedimentation and filtration

**b.** Aeration

**c.** Distillation

**5.  The tendency to attract electrons is(a)**

**a.** Electronegativity

**b.** bonding

**c.** All of the above

**6. Acid is (a)**

**a.** a substance that can donate a proton (H+)

**b.** a substance that can accept a proton (H+)

**c.** a substance can donate and accept a proto

**7.  A substance that when added to water leads to lowers the pH is  (a)**

**a.** an acid

**b.**A base

**c.**All of the above

**8. Example of Colloids is: (b)**

**a.** oil

**b.** milk

**c**. flour in water

**9. In the atom, the positively charged particles called (c)**

**a.** electrons

**b**. neutrons

**c.**protons

**10. Water has a \_\_\_\_\_\_\_\_\_ surface tension than most other liquids (c)**

**a.** lower

**b.** same

**c**. greater

**11.  Solutions which resists changes in pH (a)**

**a.** buffer

**b.** weak acid

**c.** weak base

**12.  All are functions of protein except (c)**

**a.** Nutrient, Enzymes

**b.** Defense, Structural

**c**. Energy source

**13. A simple proteins (a)**

**a.** made up of amino acids

**b**. made up of chemical components and amino acids

**c.**not naturally occurring

**14. Substances that repel and do not dissolve in water is (a)**

**a.** hydrophobic

**b.** hydrophilic

**c.** All of the above

**15. Adhesion (b)**

**a.** is the force of attraction between molecules of the same substance**.**

**b.** is the force of attraction between molecules of different substances.

**c.** none of the above

**16. Electrons are shared between two atoms, called (c)**

 **a.** ionic bond

 **b.** Dative Bonds

 **c**. Covalent Bond

17. **An aqueous solution is one in which (a)**

 **a.** water is the solvent

 **b.** any liquid is the solvent

 **c.** any liquid or gas is the solvent

**Normal blood pH is (a)**

 **a.** 7.3 – 7.45

 **b.** 5.3- 5.45

 **c.** 6.3 -6.45

 **18. Strong acids and bases (c )**

 **a.** partial dissociate in water .

 **b.** complete and partial dissociate in water

 **c.** complete dissociate in water.

**19. Weak acids and bases (a)**

 **a.** partial dissociate in water .

 **b.** complete and partial dissociate in water

 **c.** complete dissociate in water.

20. **At the center of the atom is (a)**

 **a.** nucleus

 **b.** electrons

 **c.** energy levels