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(1). Water is liquid at room temperature, the most important reason for this is the:

- a. High boiling point of water
- b. High melting point of water
- c. High heat of vaporization of water
- d. Cohesive forces due to hydrogen bonds in water**

(2). Water is a \_\_\_\_

- a. Polar solvent**
- b. Non polar solvent
- c. An amphipathic solvent
- d. Non polar uncharged solvent

(3). Polar molecules can readily dissolve in water. This is because:

- a. Polar molecules can form hydrogen bonds with water
- b. Polar molecules can replace water-water interaction with more energetically favourable water-solute interactions**
- c. Polar charged water can interact with the charge of polar molecules
- d. All polar molecules are amphipathic in nature

(4). Most important reason for the unusual properties of water is:

- a. The covalent bonding pattern in water molecule
- b. The bond angle between the two hydrogen atoms in water
- c. Hydrogen bonding between water molecules**
- d. Water can be immediately ionized at room temperature

(6). Which of the following statement is true regarding the electronegativity of atoms in water molecule?

- a. Hydrogen is more electronegative than oxygen
- b. Hydrogen is less electronegative than oxygen**
- c. Electronegativity of hydrogen and oxygen is same
- d. Oxygen and hydrogen do not have significant electronegativity in water

(7). Which of the following represent the current melting point, boiling point and heat of vaporization of water?

- a. 0°C ; 100°C ; 2260 J/g**
- b. 100°C ; 0°C ; 2260 J/g
- c. 0°C ; 100°C ; 1260 J/g
- d. 100°C ; 0°C ; 1260 J/g

(8). The oxygen atom in the water molecule due to its high electronegativity bears

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- a. 1  $\delta^+$  charge
- b. 2  $\delta^+$  charges
- c. 1  $\delta^-$  charge
- d. 2  $\delta^-$  charges**

**(9). Hydrogen bond is best represented as the electrostatic attraction between:**

- a. A hydrogen covalently bounded to an electronegative atom and another hydrogen atom
- b. A hydrogen covalently bounded to an electronegative atom and another electronegative atom**
- c. Two electronegative atoms and a hydrogen atom
- d. Two hydrogen atoms

**(10). The bond dissociation energy of hydrogen bonds in water molecule is**

- a. 10 kJ / mol
- b. 23 kJ/mol**
- c. 470 kJ/mol
- d. 348 kJ/mol