

Quiz

Water chemistry

Question 1 : Choose the correct answer

A) In water molecule Oxygen attract electrons more strongly than hydrogen this produce

- 1) hydrogen bond 2) Polarity 3) covalent bond 4)Ionic bond

B) Bond between Oxygen and hydrogen in water molecule is

- 1)hydrogen bond 2) Polarity 3) covalent bond 4)Ionic bond

C) Bond between hydrogen atom from water molecule and oxygen atom from another water molecule is

- 1)hydrogen bond 2) Polarity 3) covalent bond 4)Ionic bond

D) Process in which water vapor molecules slow down and join together forming liquid is

- 1) Condensation 2) Vaporization 3) Sublimation 4) precipitation

E) Process in which water molecules become faster and hydrogen bond break is

- 1-Condensation 2) Vaporization 3) Sublimation 4) precipitation

F) Physical or chemical change in water adversely affects human health

- 1) pollution 2) reaction 3) condensation 4) Vaporization

G) All the following are physical properties of water except

- 1) Odor 2) temperature 3)Conductivity 4)turbidity

H) All the following are chemical properties of water except

- 1) Oil content 2)BOD 3)COD 4)PH

I) PH of water = 12 means the water is

- 1) acidic 2) basic 3) neutral 4) no correct answer

J) Which of the following PH gives soapy taste of water

- 1) 13 2) 7 3) 8 4) 11

K) which of the following PH indicates presence of lead element (pb)

- 1) 2 2) 5 3) 9 4) 12

L) More ions such as carbonate , bicarbonate , Na ,K ,Ca,Mg in water means

- 1) high turbidity 2) high conductivity 3) high pollution

M) is measure of clarity properties of water or amount of solids suspended in water

- 1) Conductivity 2) Turbidity 3) BOD 4) COD

N) Which of the following elements measured in water colorimetrically

- 1) Oxygen 2) Calcium 3) Phosphours 4) Magnesium

O) COD is abbreviation for

- 1) Chemical oxygen demand 2) dissolved oxygen 3) biological oxygen demand

P) Which of the following is example of non point source of pollution

- 1) Oil tanker 2) industrial plants 3) Fertilizers 4) sewage pipes

Q) which of the following is physical method for water treatment

- 1) Disinfection using UV 2) Oxidation 3) Coagulation

Question 2

a) Define the following

Point source pollution :

Point source : single large source located at specific places and easy to identify , monitor and regulate

Example : industrial plants , sewage pipes , oil tanker

- Coagulant

chemicals used to make particles : ntaCoagul coagulate such as aluminum sulfate , ferric sulfate, ferric chloride , some chemical help coagulant as activated silica , clay polymer

- Reverse Osmosis

Reverse osmosis : forcing water to pass through membrane to remove many contaminates

b) Discuss types of Solids contaminates in water and method preferred for removing

1- **Suspended particles** : either fine or coarse easily removed by settlement or filtration

2- **Dissolved solids** : removed by reverse osmosis , cannot be removed by physical method

Reverse osmosis : forcing water to pass through membrane to remove many contaminates

3- **colloids** : difficult to remove classified to hydrophilic (water loving) and hydrophobic (water hating)

C) Discuss flocculation and coagulation process in water treatment

Removing of solids from water by collecting small particles to produce particles with size that can be removed by settlement or filtration
Coagulation occurs quickly but flocculation take long time to form larger particles from small particles formed by coagulation

Question 3 : What is meant by hydrological Cycle of water

Water recycle system on Earth starts with vaporization of water by solar radiation and become steam which rises in atmosphere then cooled and condensed and precipitated on earth as surface water or penetrates ground moving down incisions forming aquifers . part of surface water and underground water leads to sea

Question 4 : What is the difference between BOD , COD , DO ?

Dissolved Oxygen (DO)

Chemical Oxygen Demand (COD) – Biological Oxygen Demand (BOD)

Question 5 : Water is Universal Solvent , Discuss why ?

Water can dissolve more things than any other substance : interact with polar perties of water as solventPromolecules and repelled by nonpolar molecules , small size of molecules allow it to saturate areas , can convey other substance in solution

Dissolving salts by water :

Salt consists of oppositely charged ions attracted together , when placed in water these ions attracted to weakly charged water molecules , so salt dissociate and dissolve