Engineering Chemistry theory, MID-I Q.B

Course code	Tags	Question Description
19BT1BS04	Easy	Which is the purest form of surface water? **Ans: Rain Water**
19BT1BS04	Medium	Hardness of water is due to ***Ans: Due to presence of minerals or presence of salts***
19BT1BS04	Medium	Permanent hardness is due to ***presence of sulphates chlorides,nitrates of calcium and magnisiulm***
19BT1BS04	Easy	The most commonly used unit to express hardness is ***Mg\L as CaCo3***
19BT1BS04	Easy	Scale in boilers are formed due to **1.Deposotion of CaSo4** **2.Decomposition of Ca(HCo3)2** **3.Hydrolysis of Magnesium Salts** **4.Presence of Silica**
19BT1BS04	Easy	Temporary hardness of water can be removed by ***Boiling of water***
19BT1BS04	Easy	Excess fluoride in drinking water causes ***Decolaration of teeth and bone problems 1.flourosis 2.skeletal flourosis***
19BT1BS04	Medium	The maximum permissible limit of fluoride in drinking water ***is 1.5mg/l***
19BT1BS04	Easy	Zeolite process uses ***1.Catalysis*** ***2.Ion exchange*** ***3. Gas Seperation***
19BT1BS04	Easy	Which process is used for the desalination of water ***There are nearly 10 methods*** • ***Solar distilation*** • ***Vaccum distilation*** • ***Multistage flash distilatino*** • ***Multiple effect distilation*** • ***Vapour compression distillation*** • ***Reverse Osmosis*** • ***Frezze Law*** • ***Electrodylasis Membrane*** • ***Membrane distillation*** • ***Wava Powered Distilation***
19BT1BS04	Medium	Residual hardness in ion exchange process is ***0 to 2 ppm***
19BT1BS04	Easy	Which salts are responsible for permanent hardness ***Due to presence of Chlorides,Nitrates and Sulphates of calcium , magnesium*** ***Eg:CaCl2,MgSo4,CaSo4***
19BT1BS04	Easy	Which is not used for disinfection of water

19BT1BS04	Easy	Dissolved oxygen in water is determined by ***Winkler Method***
19BT1BS04	Easy	Hardness in the water is expressed in terms of_____ equivalents ***Ans: CaCo3 equivalent***
19BT1BS04	Easy	Disinfection of water removes ***Pathogenic MicroOrganisms***
19BT1BS04	Easy	Acceptable pH range for drinking water is ***6.5 to 8.5***
19BT1BS04	Easy	Nalgonda technique is used for the removal of ***Ecess Flouride From Water***
19BT1BS04	Medium	Caustic embrittlement of boilers is caused due to ***Accumalation of Caustic Soda***
19BT1BS04	Medium	Dissolved oxygen in water can be removed by addition of ***Ans:caluculated quantity of Na2So3 or Na2S or N2H4***
19BT1BS04	Medium	Priming causes
19BT1BS04	Easy	Which of the following is used for regeneration of zeolite
19BT1BS04	Easy	Ion exchange process removes ***Disolved ions from solution***
19BT1BS04	Easy	EDTA stands for ***Ethylenediamine Tetra-Acetic Acid***
19BT1BS04	Easy	Exausted cation exchange resine is regenerated by ***Ans:Sodium Chloride***
19BT1BS04	Easy	What are the characteristic changes can be observed in water due to the presence of impurities
19BT1BS04	Medium	Pick up the correct relationship among the following
19BT1BS04	Medium	Drawing off a portion of the concentrated water is
19BT1BS04	Medium	Foaming in water is due to
19BT1BS04	Easy	Potable water means ***Water that is safe to drink***
19BT1BS04	Easy	The bond-order for N_2 molecule is, ***Ans : 2.5***
19BT1BS04	Easy	The magnetic behavior of O_2 molecule is, **Ans:*Paramagnetic***
19BT1BS04	Easy	Which of the following order is correct with respect to ***bond order*** of O_2, N_2 and F_2 molecules? ***Ans:2,3,1***
19BT1BS04	Easy	The magnetic behavior of Carbon monoxide (CO) molecule is, diamagnetic
19BT1BS04	Easy	Bond-order of a molecule is calculated using the following formula, ***Ans:Bondorder = (½)* [Nb – Na]*** ***Where Nb is the number of bonding electrons*** ***Na is the number of antibonding electrons***
19BT1BS04	Medium	The bond-order of **NO** molecule is***, Ans:3***
19BT1BS04	Medium	How bond-order is related to dissociation energy? ***Ans:Directly proportional***
19BT1BS04	Easy	Arrange molecular species N_2, NO and O_2 in the increasing order of stability,

		Ans: N2 , O2 ,
19BT1BS04	Easy	Which quantum number determines the energy of an orbital in an atom? ***Ans:Principle quantum number***
19BT1BS04	Easy	Energy of a particle present in one-dimensional box is,
19BT1BS04	Easy	According to Heisenberg uncertainty principle, ***Ans:*** ***Heisenberg uncertainty principle states that it is impossible to determine the exact position and the exact momentum of the particle simultaneously.*** ***According to Heisenberg uncertainty principle, $\Delta x.\Delta p \geq 4\pi h$*** ***Thus lesser the error in the momentum, more will be the error in the position of the particle.***
19BT1BS04	Medium	According to Quantum mechanics, zero point energy of a particle in one dimensional box is,
19BT1BS04	Easy	The shape of an orbital for which Azimuthal quantum number (l) = 1 is, polar
19BT1BS04	Easy	Shape of the BF_3 molecule is, ***Ans: Trigonal planar***
19BT1BS04	Medium	Shape of a molecule having **two lone pairs** and **two bond pairs** around the central atom is, **Ans: Angular or bent shape**
19BT1BS04	Easy	Which of the following compound is having T-Shape?
19BT1BS04	Easy	What is the shape of CH_4 molecule? ***Ans: Tetrahedral***
19BT1BS04	Medium	Shape of a molecule having **two lone pairs** and **four bond pairs** around the central atom is,
19BT1BS04	Medium	What is the shape of BrF_5 molecule? ***Ans: Square Piramidal***
19BT1BS04	Easy	Which of the following compound is having octahedral shape?
19BT1BS04	Medium	What is the shape of XeF_4 molecule? ***Ans: Square Planar***
19BT1BS04	Easy	The repulsive interactions between valence shell electron pairs around the central atom of a molecule is in the following order,
19BT1BS04	Easy	Which of the following theories explains the paramagnetic behavior of oxygen?
19BT1BS04	Medium	Number of nodes possible in **LUMO** representation of 1,3-butadiene are,
19BT1BS04	Easy	Which one of the following is **HOMO** of 1,3-butadiene?
19BT1BS04	Medium	Which of the following represents **LUMO** of Benzene?
19BT1BS04	Medium	Number of nodal planes possible in **HOMO** representation of Benzene is, ***Ans: 3 Nodal Planes***
19BT1BS04	Easy	How many number of molecular orbitals are present in Benzene? ***Ans:Six Molecular Orbitals***

19BT1BS04	Easy	Total no. of electrons present in the molecular orbitals of CO molecule is,
19BT1BS04	Easy	Diamagnetic behavior of N_2 molecule ***is due to,all paired up elctrons***