

## CHP-411 Surface Chemistry and Electrochemistry

Item Text	Option Text 1	Option Text 2	Option Text 3	Option Text 4
In one of the Debye-Huckel postulates only ___ between ions are considered	van der Waal's forces	coulombic forces	atomic forces	molecular forces
If there is a difference in the ___ in different regions of the electrolyte, diffusion occurs	pressure	temperature	density	concentration of ions
If there are differences in ___ at various points in the electrolyte conduction of charge in the direction of field takes place	electrostatic potential	concentration of ions	pressure	density
Both diffusion and conduction are ___ processes	reversible	irreversible	equilibrium	pseudo equilibrium
$D = UabskT$ is the ___ relation	Einstein	Debye-Huckel	Fick's first law	Nernst
Positive ion + electron $\rightarrow$ D, this reaction is called ___ reaction	de-electronation	electronation	reversible	heat of combustion
The potential developed when a metal rod is dipped in a solution of unit activity or 1M is known as ___	Zeta potential	Standard electrode potential	Electrokinetic potential	applied potential
A fraction of the total potential difference which is completely within the liquid phase is called ___ potential	Zeta	Standard electrode	reversible	irreversible
___ potential is developed at the junction of two solutions because of difference in the speed of ions moving across the boundary	Zeta	Electrokinetic	Liquid junction	Reduction
___ theory does not take into account that the properties of the double layer change with electrolyte concentration and temperature	The Debye-Huckel	The Helmholtz	The Gouy-Chapman diffuse-layer	Stern adsorption
In ___ theory, ions are considered as point charges	The Gouy-Chapman diffuse-layer	The Stern adsorption	The Helmholtz	Eley and Evans
The difference of potential which causes the current to flow from an electrode at a higher potential to an electrode at a lower potential is known as ___ force	driving	reversible	irreversible	electromotive

## CHP-411 Surface Chemistry and Electrochemistry

___ theory combines Helmholtz and Gouy-Chapman model	Stern adsorption	Debye-Huckel	Eley and Evans	Bernal
When ___, one term in Butler-Volmer equation maybe neglected in comparison to another	$\eta = 75\text{mV}$	$\eta < 70\text{mV}$	$\eta > 70\text{mV}$	$\eta = 50\text{mV}$
If the reactants are stored outside the system the electrochemical system said to be ___	open system	closed system	isolated system	electrode system
The open electrochemical system with external fuel storage is known as ___	battery	fuel cell	electrolytic cell	electrochemical cell
The closed "one-shot" electrochemical systems with internal stocks of reactants are known as ___	fuel cells	electrolytic cells	primary batteries	electrochemical cells
If the temperature of operation of cell is below ___ degree celcius, the device is called a low-temperature fuel cell	100	150	200	250
If the temperature of operation of cell is above ___ degree celcius, the device is called a high-temperature fuel cell	500	150	200	100
The thickness of entire hydrogen-oxygen fuel cell is about ___ mm	1	2	1/2	3/4