**CHEMISTRY DEFINITIONS**

**QUANTITATIVE CHEMISTRY**

1. Define molar mass *as the mass in grams of one mole of that substance*
2. Define solute as *the substance that is dissolved in the solution*
3. Define solvent as *the substance in which another substance is dissolved, forming a solution*
4. Define concentration *as the number of moles of solute per unit volume of solution*
5. Define a standard solution *as a solution of known concentration*
6. Define an intramolecular bond as occurring between atoms within molecules

**CHEMICAL BONDING**

1. Define electronegativity as *a measure of the tendency of an atom to attract a bonding pair of electrons*
2. Define a covalent bond as *a sharing of at least one pair of electrons by two atoms*
   1. Non - polar covalent (pure covalent) is *an equal sharing of electrons*
   2. Polar covalent is *unequal sharing of electrons leading to a dipole forming* (as a result of electronegativity difference)
3. Define an ionic bond as *a transfer of electrons and subsequent electrostatic attraction*
4. Define metallic bonding as *being between a positive kernel and a sea of delocalized electrons*
5. Define intermolecular force as *a weak force of attraction between molecules or between atoms of noble gases*

**ENERGY CHANGE AND RATES OF REACTION**

1. Define *heat of reaction () as the net change of chemical potential energy of the system*
2. Define *exothermic reactions as reactions which transfer potential energy into thermal energy*
3. Define *endothermic reactions as reactions which transfer thermal energy into potential energy*
4. Define activation energy as *the minimum energy required to start a chemical reaction*.
5. Define the activated complex *as a temporary transition state between the reactants and the products*
6. Define reaction rate *as the change in concentration per unit time of either a reactant or product*
7. Define a catalyst as *a substance that increases the rate of the reaction but remains unchanged at the end of the reaction*

**CHEMICAL EQUILIBRIUM**

1. State Le Chatelier‘s principle: “*When an external stress (change in pressure, temperature or concentration) is applied to a system in chemical equilibrium, the equlibrium point will change in such a way as to counteract the stress*”
2. Define yield as *a measure of the extent of a reaction, generally measured by comparing the amount of product against the amount of product that is possible*

**ACIDS AND BASES**

1. Define acid and bases in terms of the Lowry-Brønsted model. (*An acid is defined as a proton donor. A base is defined as a proton acceptor*)
2. Define a strong acid as *an acid that ionises almost completely in an aqueous solution*
3. Define a strong base as *a base that dissociates almost completely in an aqueous solution*
4. Define a weak acid as *an acid that only ionises partially in an aqueous solution*
5. Define a weak base as *a base that only dissociates partially in an aqueous solution*
6. Define Kw for water at 25oC as Kw=[H3O+][OH-]
7. Define a *salt as a substance in which the hydrogen of an acid has been replaced by a cation*
8. Define *neutralization as the point where an acid and base have reacted so neither is in excess. Also defined as the equivalence point*
9. Define hydrolysis of a salt as *a reaction with water where water itself is decomposed*

**ELECTROCHEMISTRY**

1. Define *oxidation as the loss of electrons*
2. Define *reduction as the gain of electrons*
3. Define an oxidising agent as *a substance that accepts electrons*
4. Define a reducing agent as *a substance that donates electrons*
5. Define anode as *the electrode where oxidation takes place*
6. Define cathode as *the electrode where reduction takes place*

**ORGANIC CHEMISTRY**

1. Define a functional group *as an atom or a group of atoms that form the centre of chemical activity in the molecule*
2. Definea hydrocarbon *as a compound containing only carbon and hydrogen atoms*
3. Definean homologous series *as a series of similar compounds which have the same functional group and have the same general formula, in which each member differs from the previous one by a single CH2 unit*
4. Define a saturated compound *as a compound in which all of the bonds between carbon atoms are single bonds*
5. Define an unsaturated compound *as a compound in which there is at least one double and/or triple bond between carbon atoms*
6. Define isomers *as compounds having the same molecular formula but different structural formulae*