Enthalpy/Entropy : Review-20

1) Define : enthalpy, entropy, spontaneous reaction, non-spontaneous reaction.

2) True or false : In general, a spontaneous reaction will result in an increase in entropy and a decrease in enthalpy.

3) Give five different processes in which entropy is increasing.

4) Give the symbols for enthalpy and entropy.

5) True or false : For a non-spontaneous reaction, entropy will decrease and enthalpy will increase.

6) Write down any balanced chemical reaction that is spontaneous.

Answers : 1) Enthalpy is the total energy (or heat content) of a system.; Entropy is a measure of the disorder of a system.; A spontaneous reaction is one which will proceed without the addition of energy., A non-spontaneous reaction requires the input of energy to proceed., 2) true (there are some exceptions), 3) liquid to gas, solid to liquid, solid to gas, increase in temperature, increase in the number of moles, a salt dissolves in water., 4) H, S, 5) true, 6) Any reaction where entropy increases and enthalpy decreases. e.g. : $2C_2H_6(g) + 7O_2(g) \rightarrow 4CO_2(g) + 6H_2O(g)$ + energy, or other combustion reactions.