Daily Tutorial Sheet 9	Level – 2	JEE Advanced Pattern

106.(B) Ease of a reaction $\propto \dfrac{1}{E_A}$ (Theoretical relation).

107.(B) According to the Arrhenius equation, rate constant increases with temperature.

108.(C) Rate of a reaction may depend upon the product concentrations. Statement (1) cannot be correct because the rate of zero order reactions does not depend on concentration of reactant.

109.(B) For a zero order reaction, rate of the reaction remains constant with time.

110.(A) $\left(t_{1/2} \propto a_0^{1-n}\right), n =$ order of the reaction.

111.(C) In collision theory activation energy and proper orientation of the molecules together determine the criteria for an effective collision.

112.(D) $C = C_0 e^{-k_1 t}$

After $t = \dfrac{2}{k_1}$ [$1/k_1$ is called average life] $\Rightarrow C = C_0 e^{-2} = \dfrac{C_0}{e^2} = \dfrac{100}{e^2}\%$

113.(A) Reaction having lower activation energy is fast reaction

114.(B) $r = k[N_2O_2][H_2] = k_{eq} \dfrac{(N_2O_2)}{(NO)^2}$ $\qquad r = k\,k_{eq} = [NO]^2[H_2] = k[NO]^2$

115.(D) Rate constant of a reaction increases with temperature.