Chemical Reaction Engineering I

Self Test 1

by
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QUESTION 1

Consider an elementary reaction is conducted as follows:

$$A + \tfrac{1}{2} B \rightarrow C$$

(a) Formulate the reaction rate law for B, r_B and C, r_C for the reaction

(b) Calculate the reaction rate of A and C if the final concentration of A, C_A is 1.5 mol/dm^3 , C_B is 9 mol/dm^3 and k_A is 2 (dm^3/mol)$^{(1/2)}$(1/s).

QUESTION 2

Define the overall order for the list of reactions below:

(a) $B \rightarrow C$

(b) $3B \rightarrow D + F$

(c) $4B \rightarrow 3C + A$

(d) $\frac{1}{2} A \rightarrow C$

(e) $\frac{1}{2} A \rightarrow \frac{1}{2}B + \frac{1}{2}C$

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