

## Question 2 Enzyme Kinetics

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## Question 2

### 8.1 Solution:

Let  $e = [E]$ ,  $s = [S]$ ,  $a = [ES]$ ,  $e = [E]$ , and  $p = [P]$  where  $e$ ,  $s$ ,  $a$ ,  $e$  and  $p$  denotes the active mass of corresponding substance.

$$\begin{aligned}\frac{de}{dt} &= (k_2 + k_3)a - k_1es \\ \frac{ds}{dt} &= k_2a - k_1es \\ \frac{da}{dt} &= k_1es - (k_2 + k_3)a \\ \frac{dp}{dt} &= k_3a\end{aligned}$$