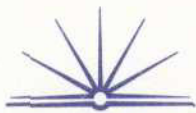


Question 9

$$\begin{aligned} \text{b) i)} \quad T=0 \quad \frac{dv}{dt} \quad 2e^t + 2e^{-t} \\ &= 2e^0 + 2e^{-0} \\ &= 2 + 2 \\ &= 4 \end{aligned}$$

$$\begin{aligned} \text{ii)} \quad \int 2e^t + \int 2e^{-t} \\ V &= 2\int e^t + 2\int e^{-t} \\ V &= 4 \end{aligned}$$



iii) $V=3$ ~~$2e^t + 2e^{-t}$~~

~~$\frac{dw}{dt} = 4$~~

~~$e^{3t} + e^{-3t}$~~