Maximum Marks: 10  Section:04  Time Allowed: 15 minutes

(1) If \( x = 2\sin t, y = 3\cos t, 0 < t < 2\pi \), find \( \frac{dy}{dx} \) and \( \frac{d^2y}{dx^2} \). For which values of \( t \) is the curve concave upward?

(2) Find the length of the curve \( x = e^t + e^{-t}, y = 5 - 2t, 0 \leq t \leq 3 \).