

John Eshman Mechanics  
Computer Engineering  
18 12 14 17 02 10 36

① Velocity

$$V = (4t^2 - 3t) \text{ m/s}$$

$$g = \int V - dt$$

$$S = \int (4t^2 - 3t) - dt$$

$$S = 2t^3 - t^2 + C$$

$$S = 2(4)^3 - 4^2 + C$$

$$S = 32 - 64 + C$$

$$S = -32 \text{ m}$$

②  $V = (0.5t^3 - 8t) \text{ m/s}$

$$a = \frac{dV}{dt}$$

$$a = 1.5t^2 - 8$$

$$a \text{ at } t = 2$$

$$a = 1.5(2)^2 - 8$$

$$a = -2 \text{ m/s}^2 \text{ (deceleration)}$$

③ acceleration  $a = (4t^2 - 2) \text{ m/s}$

$$a = 4t^2 - 2 \text{ m/s}$$

$$a = \frac{dv}{dt}$$

$$dv = a dt$$

$$\int v = \int (4t^2 - 2t) \cdot dt$$

$$v = \frac{4t^3}{3} - t^2 + C$$

$$v = \frac{4S}{3}$$

$$-20 = 2 - 20 \quad S = 20 \text{ m} \\ + 20 \quad S = ?$$

Admission into  
Computer Engineering  
BY ENG 010133

$$2.5 < 4 < 24$$

$$= (20 + \frac{1}{2} - 2000) - 24$$

$$S = \frac{400}{12} - \frac{24}{2} + 5 + 10$$

$$A + S = 0 \quad S = -20$$

$$2 = \frac{4(0)}{12} + (0)^2 + C_1(0) \quad C_1 = 2$$

$$A + 2 = 0 \quad S = -20$$

$$-20 = \frac{4(0)^4}{12} - \frac{2(0)^2}{2} + 2(0) - C_2$$

$$-18 - 5 - 0 = -C_2$$

$$C_2 = -9.665$$

$$S = \frac{4(0)^4}{12} - \frac{2(0)^2}{2} - 19.329$$

$$S = 50.000 \text{ cm}$$

(4)

$$u = 20 - 0.055t^2$$

$$u = v \cdot (24/5)$$

$$24/5 = -0.15t$$

$$u = (20 - 0.055t^2) \cdot (2.4/5)$$

$$u = -35 - 0.0055t^2$$

$$u = S = 15m$$

$$u = -2(15)^2 + 0.005(15)^2$$

$$u = -30 + 16.875$$

$$u = -13.125 \text{ m}^2$$