	Page No.
	Assignment - 2
<u>(4)</u>	Assignmend 2. Application of ordinary differential Equation.
	the test has been the test the
2	A paradrooper of his parchade weight 50 kg at the the Instand parchates opens he is travelling vertically approved downword but speed somes if the air registance varies directly as internations velocity and it is so newfor when velocity is lomis find the velocity of paradrooper
	as any time to the position of limiting
<i>?</i>	mass m = 50, kg initial velocity Vo= 20m ls
	Air registance $f = KV$ $V = lom/s$ $f = 20N$ $l = 20/10 = 2 Ns/m$ gravity $g = 9.8 m/s^2$
	gravity g = 9.8 m/s2
	equation of motion
	$\frac{mdv}{dt} = \frac{mg - kv = dv}{dt} = \frac{g_0g}{dt} - \frac{0.04V}{dt}$
	(since K/m = 2/50 = 0.04)

age No.

@ velocity out any time t

(v) v(4)= 245-2250-0.041

3 position at any time t:

n(1) = 245t + 5625 (p - 0.04t - 1)

limiting relocity (as to co):

V = 246 m/s

1 - (n 1 gr and a nice no o)

1 + 1 - 2 % ((11) × 1- 1)) 1. 1 = (v) × ()

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