

SNS COLLEGE OF ENGINEERING

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AN AUTONOMOUS INSTITUTION

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	Runge - kutta Methods
R.K	methods for solving 121 order egu:
	schen R-k method
9	of the initial values of (x,y) for the
alitt.	equation dy = f(x,y), then the 1st increment in y by in calculabed from the formula.
100-20-00	KI - RECKIND
	K2 = hof (X-19h2, 44/2)
	Ay = k2 Where h = AX
	: 4 (x+h) = 4(x) + x>
Third	order R.k. Method:
Th	e algorithm for this method is given below.
	K, = - h f (x, y)
	K= hf(x+lv2, y+ W/2)
	Ks - hy Mah, y-aka-ki
89	Ay - of [K++ K++ Ks]
-/-	y (x+h)= y (x)+ Ay.
FRUNK	a order R. k method for solving 1st order eyu
_	The algorithm for this method is given below
	K1 - B-B(714)
	Ko - & f [x+h2, y+h,2]
2	14 = h f (x+h/21 4+k2)]
	Ku = hoffx+D, y+Ko 1 8 Ay = & 1 K1+2Ke +2K3+1
	: 4 (w+b) = A(m) + AA.