

SNS COLLEGE OF ENGINEERING

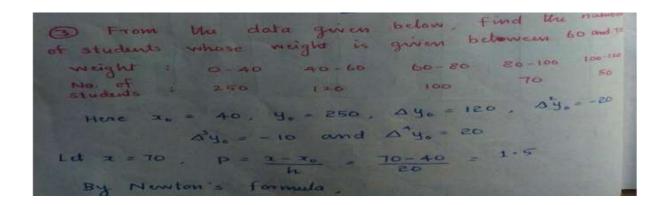
Kurumbapalayam (Po), Coimbatore – 641 107



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Topic: 4.6 – Problems on Newton's interpolation



Difference 1	able		S-76 3 2 2 2	7 17450 7	12 19 2 2 2 2	
T a	4	Dy	Δ'y	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	D ⁺ y	1
Below 40	250	120		1		
Below 60	370	100	- 20	-10		
Below 80	470	70	- 30		20	
Below 100	540	50	-20	10		
Below 120	590	50 /				
4(70) = 25 $+ (1.5)(0.5)$ $= 250$)(-0.5)	(-10)	+ (1.5)		5)(-1.5)	(20
y(70) =	423	. 5938				
No. of stud	unts	less th	meen o	weigh 60 and	t is A	24 igh
· No. of	staccon					



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Year	: 1941 1 : 250 2 the	1951 0 2800 populati	1961 3200 on for	3700	4-350	1991	
DIHEREM		29	Δžy	D ³ 9	1 049	105	
1941	2500	300			Park I		
1951	2800	400	100	0	50		
1961	3200	500	150	50	25	- 25	
1981	4350	875	225	75			
1991	5225			1081			
Here $x_0 = 1941$, $y_0 = 2500$, $\Delta y_0 = 300$, $\Delta \hat{y}_0 = 100$ $\Delta^3 y_0 = 0$, $\Delta^4 y_0 = 50$ and $\Delta \hat{y}_0 = -25$ Let $x = 1945$, $P = \frac{x - x_0}{h} = \frac{1945 - 1941}{10} = 0.4$ By Newton's formula.							

y(x) =	y . + P	04. + P(P	-1) Dy +	(0.4)(-	0-6)(-1-6
-	2500 + (0.4)(360) +	(0.4)(-0.6)	(00) +	
+	(0.4)(-0.6)(-1.6)(-2.6)	(50) + (0.4)	(-0.6)(-1.6)(-	(-25)
			.08 - 0.748	38	
9(194	5) = 260 ~ 260	06			
5 Using	Newton	s forward	interpolation = 21 from 29		ng data.
y :	0.3420	23	26 29	4848	
Difference	e table	ASSESSED TO SECOND	ALCOHOL: ALCOHOL: MA	I Δ ³ Υ	7
Tx	1 4	AY	۵ ک	23	
20	0.3420	0.0487	-0.001	1 Control	
23	0.3907	0.0477		-0.0003	
26	0.4384		-0.0013		
29	0.4848	0.0464			