	chapter -> Successive Differentiation			
***		40)		
N K X	Multiple Choice Questions:			
Q+1	de F. F. F	18.0		
<u> </u>	If $\sqrt{x} + \sqrt{y} = 5$ , then $\frac{1}{2}$ will be;			
	a) $\sqrt{a}/2 = \frac{3/2}{25/23/2}$			
	0) 122	5 2 1/2		
	c) $5/2x^{3/2}$ d) $1/10$			
 Q→2	do 11 X III in			
<u></u>	If y=xx, then 42 will be;			
====	a) (1) 12 U = 141111 1111111111111111111111111111			
	a) $(\frac{1}{4})y_1^2 - \frac{y}{2}$			
	(c) $(x) y^2 + y$ $(y) y^2 + y$ $(y) y^2 + y$			
The state of		de		
	dD 1. (21 -1)2			
	$Q \rightarrow 3$ of $y = (2 \tan^3 x)^2$ , then;			
	(a) $(x^{2}+1)^{2}y_{2}+2x(x^{2}+1)y_{1}+8=0$ b) $(x^{2}+1)\cdot y_{2}+2x(x^{2}+1)$			
	$(\alpha)$ $(x+1)\cdot y_2 + 2x(x+1)y_1 + 8 = 0$ $(x+1)\cdot y_2 + 2x(x+1)$	y = 8		
-	(c) $(x^2-1)^2y_2 + 2x(x^2-1)y_1 = 2$ a) $(x^2+1)^2y_1 + 2x(x^2+1)$			
_	$(c)$ $(x-1)\cdot y_2 + 2x(x-1)y_1 = 2$ $(x+1)\cdot y_1 + 2x(x+1)$	y2+2=0		
$Q \rightarrow 4$ $4f  y = \sin(ax + b)$ , then j				
· ·	(a) $y_n = a^n(os \begin{cases} ax+b+\frac{n\pi}{2} \end{cases}$			
(a) $f_m = a^n(os \{ ax+b+ \frac{n\pi}{2} \}$ (b) $f_m = b^n sin \{ ax+b+ \frac{n\pi}{2} \}$ (c) $f_m = a^n sin \{ ax+b+ \frac{n\pi}{2} \}$				
	(d) $y_m = \sin(\alpha x + b + n\pi/2)$			
0.5	9f $y = e^x \sin(ax+b)$ , then;			
<u>Q</u> - <u>-5</u>				
	(a) $f_{20} = (1+a^2)^{10} e^x \sin(ax+b+20\tan^3 a)$	No.Q		
	(a) $f_{20} = (1+a^2)^{10} \cdot e^x \cdot \sin(ax+b+20\tan^3 a)$			
<u> </u>	(b) $\frac{1}{20} = (1+a^2)^{10} \cdot \sin(ax+b) + 20 \tan^{1}a$ (c) $\frac{1}{20} = (1+a)^{20} \cdot (\cos(ax+b) + 20 \tan^{1}a)$			
,	(d) $y_0 = (1+a^2)^{10} e^x \cdot \sin(ax+b+tan^{1}a)$			
- 11		-		

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Q,6					
1	English one is sufficient	HAX.			
	(a) - 99! $(b) 99!$				
1	(c) 99 and the of mit (d) 1.0% it	100			
0-7	off y=sn(logx) & x2y+xy+y=0, then;				
	12 12 13	9			
	(a) $x^2y_{(n+2)} + (2n+1) \cdot x \cdot y_{(n+1)} + (n^2+1)y_m = 0$				
		5.7			
	(b) $\chi^2 y_{(n+2)} + (2n+1) \cdot y_{(n+1)} + (n^2+1) \cdot y_m = 0$				
	(c) $\chi^2 y_{(n+2)} + (2n+1) \cdot \chi \cdot y_{(n+1)} + (n^2-1) \cdot y_m = 0$ (d) $\chi^2 \cdot y_{m+2} + (2n-1) \cdot \chi \cdot y_{(n+1)} + (n^2+1) \cdot y_m = 0$				
	1.1	4			
	If y=em. sin x and (1-x2)4(n+2)-(2n+1)x.4(n+1)-(m)	$\frac{1}{2}$ $\frac$			
<u></u>	then $\lim_{n\to 2} \frac{y_{n+2}}{y_{n+2}} = i$				
	then $\lim_{x\to 0} \frac{y_{n+2}}{y_n} = j$				
	(a) $n^2 - m^2$ b) $m^2 - n^2$				
N = 1	(a) n=m (c) n=m () (d 0= 6+ + (+x) 3 d) m <sup>2</sup> +n <sup>2</sup>				
1	TO NOT THE PERSON OF THE PARTY				
( O > 9	1. 19 y = x3 (cosx, then : 4m=1xj+ (1) (3)				
	The state of the s				
•	(a) $x^3 \cdot (os \{x + \frac{n\pi}{2}\} + inx^2 \cdot (os \{x + \frac{(n-1)\pi}{2}\})$	1.9)			
	(4) 2.03 ( 1 2) 11 130 (03)	-			
	$(6) \sim 3 (                                 $				
	(6) $\chi^3$ . (os $\{x + \frac{nn}{2}\} + 3nx^3$ . (os $\{x + (n-1)\pi\}$ .)	1.			
	(c) $x^3 \left( x \left( x + \eta \pi \right) + 3x^2 \left( x + \left( \eta \right) \pi \right) \right)$				
<u> </u>	$\frac{(1)}{2}$				
	(c) $\chi^{3}$ . (os $\{x+\frac{n\pi}{2}\} + 3x^{2}$ . (os $\{x+\frac{(n-1)\pi}{2}\}$ ) (d) $\chi^{3}$ . (os $\{x+\frac{n\pi}{2}\} + 3nx^{2}$ . (os $\{x+\frac{(n-1)\pi}{2}\}$ )				
	(d) 11. (05 \$ 14 mg (d) 10 mg (d) 2 - 3 - 3 (d)	(3)			
0.15	de u- ~ loox than u- :	L. J.			
Q∍lo		3			
	(a) $n \cdot y_{(n-1)} + (n+1)!$ (b) $n \cdot y_{(n-1)} + (n-1)!$ (c) $n \cdot y_{(n-1)} + n!$ (d) $y_{(n-1)} + (n-1)!$				
-					
	· (plan for entries to last) to see the				

<u>(Q→11)</u>	$4f x = (os^30, y = sin^30, then y_2 at \pi/4 is$	():1
-	2) 55/2	
. ,	a) $5\sqrt{2}/3$ (1) $4\sqrt{2}/3$ (1) $4\sqrt{2}/3$ (2) $4\sqrt{2}/3$ (3) $4\sqrt{2}/3$ (1) $4\sqrt{2}/3$ (2)	
	(d) 452	
Q->12	9f $y=(ax+b)^m$ , then Rind $y$ ; $x = -1$	}
	(inin room's Ala to 149, 190)	
	a) 0 b) n <sub>1.0</sub> <sup>n</sup>	2
	(1) (1) (2) GX + 240x + D(1)	
	c) $\frac{m!}{m!} \cdot q^{n} \cdot (ax+b)^{m-n}$ d) $(-1)^{n} \cdot n! \cdot q^{n}$	
	(m-n)! (ax+b) (ax+b) (ax+b)	
Q+13	dp	
<u> </u>	If y = sin6x. (os4x, then find 4m;	-
9	a) $\frac{1}{2} \left[ 10^{11} \cdot \sin \left( 10x + \frac{n\pi}{2} \right) + 2^{11} \cdot (os(2x + \frac{n\pi}{2})) \right]$	
	27 2 2 3 3 3 4 2 7 2 7 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	
	b) $\frac{1}{2} \left[ 10^{n} \cdot \left( \cos \left( 10x + \frac{n\pi}{2} \right) + 2^{n} \cdot \left( \cos \left( 2x + \frac{n\pi}{2} \right) \right) \right]$	
	$=$ C) $\frac{1}{2}$ $\left[ 10^{3} \cdot \text{Sin} \left( 10^{3} + \frac{10^{3}}{2} \right) + 2^{3} \cdot \text{Sin} \left( 2^{3} + \frac{10^{3}}{2} \right) \right]$	
=		
2	d) $\frac{1}{2} \left[ lo^{n} \cdot \left( os \left( lox + \frac{n\pi}{2} \right) + 2^{n} \cdot sin \left( 2x + \frac{n\pi}{2} \right) \right]$	
01	If $y = e^x \sin^2 x$ then find $y_n$ ;	
Q+14	JF 9 - E. SITTS, Then +Ima an,	
	a) $\frac{1}{2}e^{x} \left[ 1 - (5)^{\frac{\eta}{2}} (os(2x+ntan^{-1}(2))) \right]$	3
		-
	b) $\frac{1}{2} e^{x} \left[ 1 - (\sqrt{5})^{2} \sin(2x + n \tan^{-1}(2)) \right]$	
	c) $\frac{1}{2}e^{x}\left[1+(\sqrt{5})^{n}(os(2x-nton(2)))\right]$	
Ki		
	d) $\frac{1}{2}e^{x} \left[ 1 + (5)^{n/2} \sin(2x - n \tan^{-1}(2)) \right]$	

		1
15)	If $y_n = x^2 e^{ax}$ , Bind $y_n = y_n$	11:21
	a) $a^{m-2}e^{ax} \left[ a^2x^2 + 2nax + n(n+1) \right]$	
	b) $a^{n+2} \cdot e^{ax} \left[ a^2x^2 + 2nax + n(n+1) \right]$	
1	10 m	Sk Ž
	() $a^{\eta-2} \cdot e^{ax} \left[ a^2x^2 + 2\pi ax + \pi(\eta-1) \right]$	
	d) $a^{n-2}$ . $e^{ax} \left[ ax + 2nax + h(n-1) \right]$	
	() "() (b) (d) (d) (e) (e) (e) (e) (e) (e) (e) (e) (e) (e	
-		
	if y= mischeolix then find this	(tr. )
	[(a"   12 ] so) " = + (\frac{1}{2}" + 201) niz " (1) \frac{1}{2}" (2)	
	(0)  if  (0) = (10) + (20) + (20) + (20) = (10) + (20) = (10) + (20) = (10) + (20) = (1	
	((21 + 13) + 31) + (31 + 31) + (31 + 13)	
	d) + 1000 (as (102 + 120 + 200 (200 + 09))	
	ny bank meh zinne s = 1 de	ph Qi
	((e)tranta jas/20) = (1) = 1 = 5 = 10	
	[((s), worth + 5 ) min (ED) - 1 ] , 2 = 19	
	$(i) = e^{x} \left[ -1 + (is)^{n} (is) (is) (is) (is) \right]$	
	$d = e^{\frac{1}{2}} \left[ 1 + (5)^{\frac{n}{2}} \sin(2x - n \tan^{\frac{n}{2}}(z)) \right]$	
	((12), 1111 (1-3) 1116 (2) 11 1 1 3 2 /2	-

XX	Answers: & Successive	Differentiation }
_	1) - (c)	11)- (b)
1	2) - (d)	12)- (d)
	3) - (b)	(a)
	4)- (c)	14) - (a)
	5) - (a)	15)- (c)
, ,	6) - (a)	
	7)-(a)	
	8) - (d)	
,	9) - (d)	
	10) - (Ь)	
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8.		
	s with the day son i	The state of the s