4	[Camlin[Fege L
	Gr. H Raisoni Collège of Engineering and Management, Pune
	F.Y B.Tech (Enginering) FIRST TERM 2020-21
	CAE-II (2020 Pattiem)
	Department - Information Technology (IT) Torres Section - Tolm I
3	Date of Emanuation - 07/04/2021
3 [†] III	Subject Name - Mathematics
TO THE STATE OF TH	Subject Name - Mathematics Roll NO - (70 Name - Lwayan Pramod Torode.
	RT FLW
	State Leibnitz Theorem.
<u>Auswer:</u>	The derivative on n'th order of the product of two functions can be expressed by formula.
3	4 4=u.v+heu.
1	4n=Unv+nc1 Un-10,+ nc2 Un-2 12 t+ 1/2 Uvn.
Section 1	
ь)	$L + U = \chi^2$
and the same of th	
and the second s	Uling dividend rule.
	Using dividud rule. Divisor
The same of the sa	
respecting the free office of the second summarises to the second	A.

DA.

	$ \begin{array}{c c} $
	$\frac{2}{3}$ $\frac{2}{3}$
a = =	$-\lambda^{2} - 3\lambda^{2} + 2\lambda$
	2 2 2 2
	32-72
	32=9256
	7n-6
- N	$-\cdot \cdot = \lambda + 3 + 7\lambda - 6$
	$\frac{1}{12} = \frac{1}{12} $
(Co.	AND ALL OF CHARLES AND CONTRACT OF THE STATE
	$= (\chi_{+3}) + \frac{1}{\chi_{-1}} + \frac{8}{\chi_{-2}}$
1	7-1 /2
	$\frac{1}{2} \left(\frac{1}{2} \left(\frac{1}{2} \right)^{-1} \right)$
	Taking nth order derivative using
17 (17) 17 (17)	Taking in brack convaint wang
180	$ u = (an + b)^{-1}$, $ u = (-1)^h n ah$
	(an+b)n+1
	Thus, 4n = 0+0+8 (-1) h n 1 (1) h (-1) h n 1 (1)
9 . 22 2	$(x-2)^{h+1}$ $(x-1)^{h+1}$
	$ -\cdot y = (-1)^n 8 - 1$
	$(n-2)^{n+1}$ $(n-1)^{n+1}$

We have given 4= Sin(m Sin'n) -1 Diff. Ow. r.t x ··· 4 = m (os (m Sm-1n) . 1 = 4. VI-2= m Cos(m Lin'n) therapair diff. w.r.tn, we have, $42\sqrt{1-x^2+41} = -2\pi$ = $-m^2 \sin(m \sin n) = 1$ $2\sqrt{1-x^2}$ 42 (1-22) -41. n = - m24, by (). Differentiating this eqn with we get. - [42 (1-22) - (412) + m2/n=0-1 By libritz's theorem. 4n+2(1-n2)+ h 4n+1·(-2x)+ h(n-1).4n.(-2). - (4nt) · x+ 1 · 4n1) +m24n =0. (1-n2) 4n+2-(2n+1) n4n+1-(n2-n+n-m2) 4n=0. $-\frac{1}{(1-n^2)} \frac{1}{4n+2} - \frac{(2n+1)^n \frac{1}{4n+1} \cdot (n^2-m^2)}{2n+1} \frac{1}{2n+1} \frac{1}{2$

l l		
	10 - 1, continue continue continue continue	Q
04 a)	2= 1 (x, y) is Continuous and poeties commons process	
	ollow commutative property teat is:	
	follow commutative properly that is.	
	3	
	$\frac{8^23}{2} = \frac{3^2\lambda}{2}$	
	dydn dudy	
	to all policy of a section of a	
P)	Quin H=an2+2hny+by	= F _{III 7}
	Given $M = an^2 + 2hny + by^2$ So, diff. w.r.t n .	
	$\frac{dy = \delta (ax^2 + 2hxy + by^2)}{dx} + fea$	
	dy = & (ax2+ 2hny +by2) from	
	an dx	
	δυ = 2an + 2hy.	
		-
ri l	So now diff w.r.t.y.	
7	$\delta v = \delta \left(an^2 + 2hny + by^2 \right)$	
x = 1	84	in finite City
н н		
	does = 2hn+2by	
	84	Automobile Section 1
	Hence provid.	
	The state of the s	M.
	Qu.	· English

	Camlin Page 5
7	
C04	
C.	ljiva
,	U= log (taux + tany + tanz)
	So Now,
	eu=(tan+tany+tanz) - (1)
	The state of the s
	abing partial derivatives with respect to 1, 9,3 asp.
3 6	Taking partial derivatives with respect to n, y, z rusp. We get. differ. w.s.t n.
	$\frac{\delta}{\delta n} = \frac{\partial}{\partial n} (\tan n + \tan q + \tan z).$
	Lo.
	(eu) du = lu2n - (2)
)	8n
	differ. w.r. to y, trun.
	& (cu) = & (tan x + tan y + tan z).
	84 84
	So,
	u V
	$e^{u} du = 8u^{2}y - 3$
	1-04

al

2 (tan + tany + tang) Now, if we multiply (2), (3), (4) by lin 2n, Si 2y, Si 23 reep and add from. Then we get. Sin 2n(eu dy) + Sin 24 (eu Su) + Sin 23 (ell &4) = Lin Su2n+Sin2y lu2y + Sin2z Su2z. = (2 Sin n Cos n Su2n) + (2 Sin y Cos y Su2y)+ = (2) (tan x + tany + tanz => eu (Sin 22 du + Sin 24 du + Sin 23 => Sin2n > 4 + Sin2y du + Sin2z du = z. Hence proved.