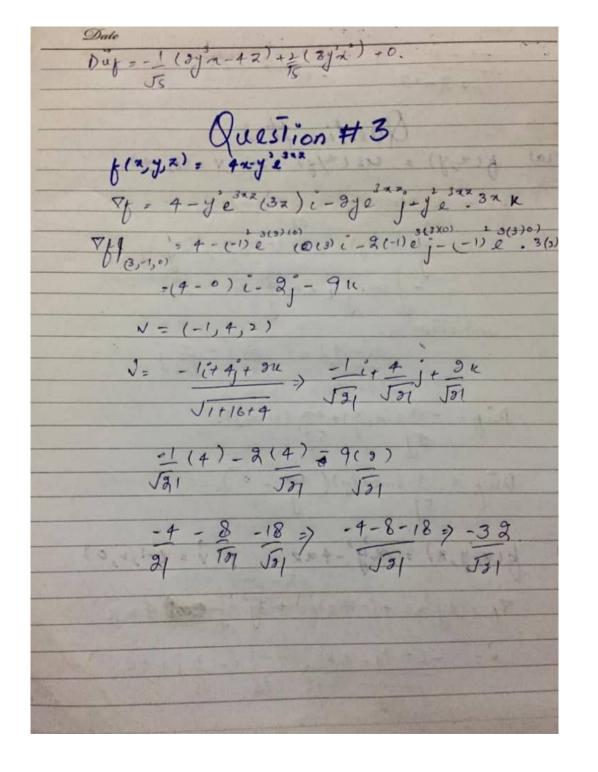


Date	15 5	To a	1994
a-4(7m/6)	- Alexander	0."	La
7×+7 u	VOTICON	X	
n-882/6	1-x7-1x	(44)360	00
14%	"Harter	73.5	
	- 49x :	- 11 .	77.33
62-382 =>	K(14) X	52	
(c) lim n'- y'			
(n)y)+(0,0) -y	- 100		
let y= ma	THE STATE OF		-
n-ma	Co North		
n min	Val-		
× (1-mm)	Barriel	
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1 25 0	75 149	The same of the sa	-
m ³ n ²	Dr. Walter	7 5-27	
•	L		7-18-
d) lin 1277 (-10,4) 12-21	2 7	(0,317-16,0)	10
(m,y), 2) + (-1,0,4)	7		
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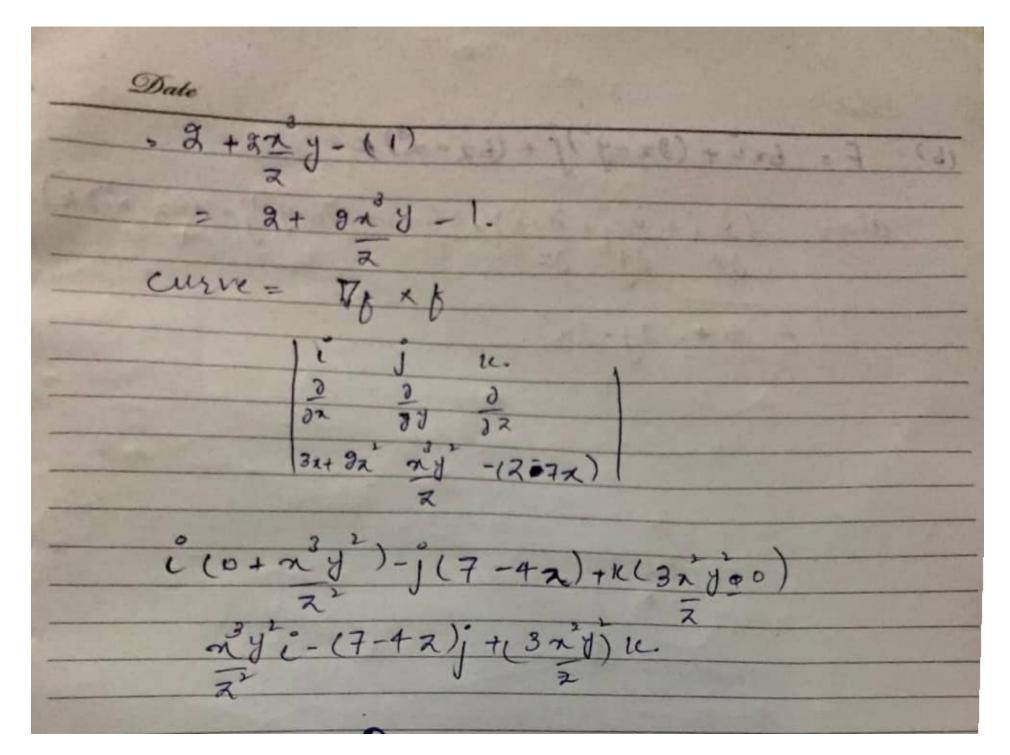
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(a) b(x,y) = \(\size\) ai (-2,3)

\(\forall = \forall (\hat\) \(\forall \) \(\fora Df(-23) = (4+4)"+(-2)i+-!(4+5)"=(3(9)j" = - 2 1 + 87 (6) $f(x)y, x) = e^{x} cos(y \partial x) of (4,-1,0)$ $\nabla_{y} = (e^{3}, g(cos(y - \partial x))i + e^{2}(-sin(y - \partial x)(e))j$ $+ e^{2}(-sin(y - \partial x)(-a))k$ Pf(4,700) = ex gcos (-2-0) i+ & (-sin(-2)) + e 1-sm (-2)(-2) 7/(+,7)= 2+1 (-2 cos. 2 i- 8 sm(-2) +25in(-2)()

Question #5 (a) F= 2 gi- 8(2-32)j+4/K V= 9ayi- oj + 0. Div to = Pt. t. = (9xyi). (xyi-1x3-3x)j+4ytu). Div t . 22 y . 4 curve = xf xf. = i(8y+3z')-j(0-0)+k(+3x-x') = (8y+32)i-0j+(22) u. F3(82+32)に+ですー(ス・アル)に では、対すし人)、しゅれる新力がらして div= 76. 6



Date Hence vector is conservative. (6) since of/or & or/ox are not equal non-conservative. it is

Question # 7

Z= $n^2-\omega$; $n=t^2+7$; $y=\cos(2t)$ $2\omega = 4t$ Date 10) $\frac{dz}{dt} = \frac{\partial z}{\partial x} \frac{\partial x}{\partial t} + \frac{\partial z}{\partial t} \frac{\partial y}{\partial t} + \frac{\partial z}{\partial w} \frac{\partial w}{\partial t}$ (2x. 3t2)+4(+1(x-w)).(sm)t)()) = (4y x - 2). cos(x). 2n.

gyn costn') - 4 x cosh'). 2 ny+ 4 y dyn = cestny) (1 y + dyn). any + 4y dy = yearny + dy n erry. gryt-yeury = ndyeurny - 4y n'dy. Inj-yeorg = dy (neuxy-4y3m). dy = gny-ycory
an newsy-4y'n'