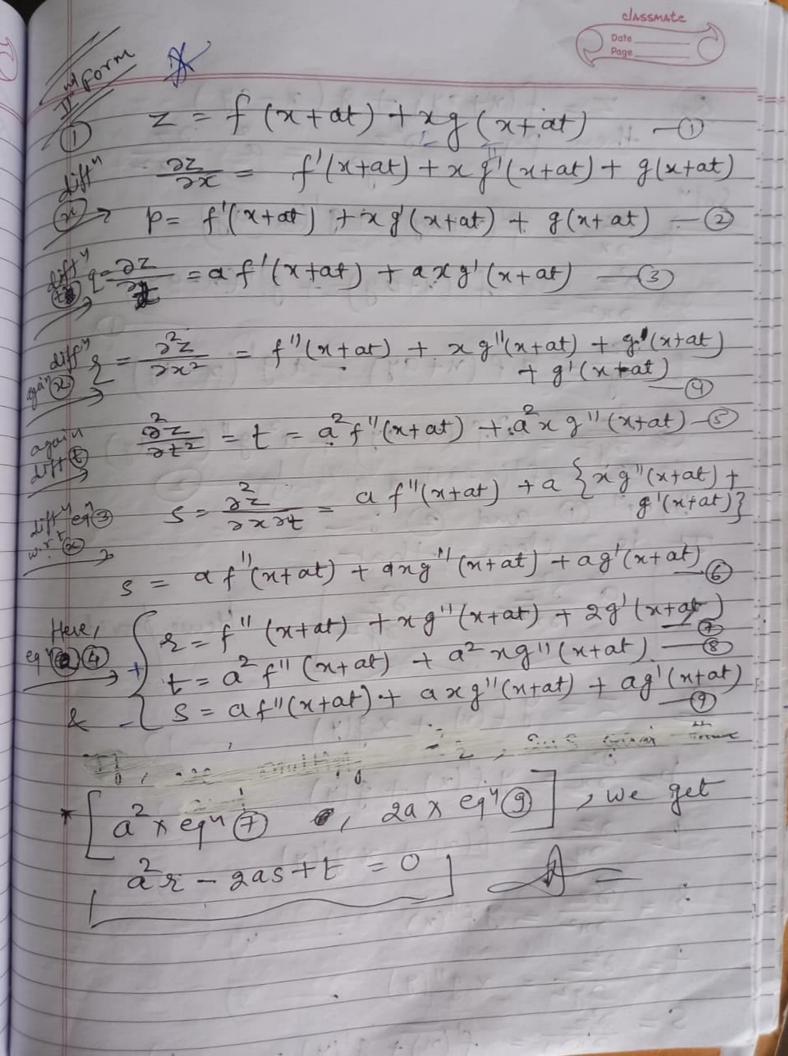


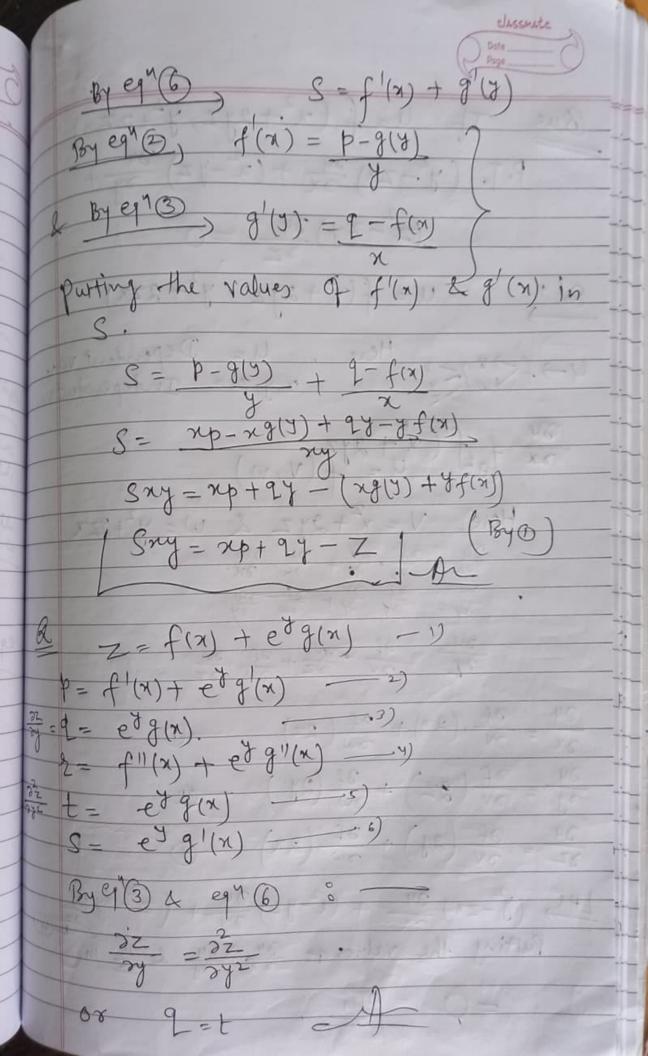
By eg 1 0 & 3 8 - (equating) 2n = -9 Z=y+2f(+10gy). - Px = f' (\frac{1}{x} + 10gy) -32 - 27 + 2f' (+ 1994) · + y(2-28) = f'(\frac{1}{\tau} + 1098) 72 - y= f'(= + logy) -0 by equating eq 400 & Di--Px - 42 - y2 - Px = 79-27 xp+ y2= 212 1

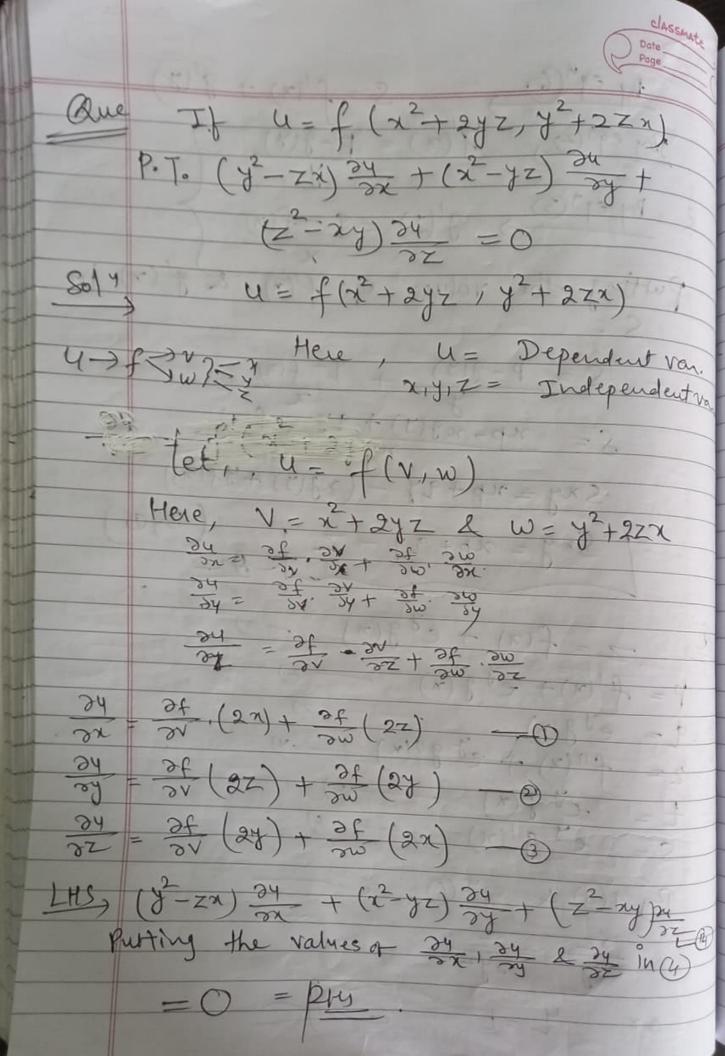


Soly Z = f(x+ay) + g(x-ay)then $f = \sqrt{3}z = a + \sqrt{3}z$ $\sqrt{3}y^2 = a + \sqrt{3}x^2$ $\sqrt{3}x = f'(x+ay) + g'(x-ay)$ 2= 32 = f"(x+ay) + g"(x-ay) 9 - 2 = af(n+ay) - ag/(n-ay) # 32 = a f " (x + ay) + a g " (x - ay)

S = 22 = a f " (x + ay) - a g " (x - ay)

By eq " () and (2) :
+ is clear that à 32 = 32 Henre proved $= Z = \mathcal{J}f(m) + \chi g(y)$ p= 32 = yf(x) + g(y) 2= 32 = f(x) + x g'(x) -3); $2 = \frac{3^2}{3x^2} = 3f''(x) - 4$ $\frac{1}{2} = \frac{\partial^2 z}{\partial y^2} = x g''(y) - \frac{1}{2}$ $S = \frac{\partial^2 z}{\partial x \partial y} = f'(x) + g'(y) - \frac{1}{2}$





de Independent Direct Integration Method. D. Salve, 25 + 18xy + 8in (5x-A) = 0 By direct Integration Method. 3 22 + 18 xy + bin(2x-y) =0 * Integraling wirt x { Keeping y fixed} $\frac{3^2}{32}$ + $18y^2(x^2)$ = $-\frac{\cos(2x-y)}{2}$ - $-\frac{f(y)}{2}$ $\frac{3^2}{3x^3} + \frac{9x^2y^2 - \cos(2x-y)}{2} = f(x)$ Integrating wiset x { keeping y fixed? $\frac{3^2}{3^2} + 9y^2 \left(\frac{3^3}{3}\right) - \frac{8in(2x-y)}{4} = xf(y) + \frac{9y^2}{3}$ * Integrating wirt & [keeping on fixed] $Z + 3x^{3}(\frac{y^{3}}{3}) + \cos(2x-y) = x \int f(y) dy + \int g(y) dy$ $\frac{1}{2} \frac{1}{2} \frac{1}$ Integrating w.r.t x: - (keeping y as $\frac{\partial z}{\partial y} = \frac{1}{y} \left(\frac{x^2}{2}\right) + ax + f(y)$ Integrating wirit yi- (keeping a as fired $Z = \frac{x^2}{2} \left(-\frac{1}{y^2} \right) + axy + \int f(y) dy + f(x)$ Z=-x2 + any + u(y) + f(x)

3234 - Sinx Siny for which. 82 -- 28iny, when n=0 + 2:0 when z=0 when y is an odd multiple of 7/2 32 Sinx siny * Integrating w.r.t x ... -SZ - cosa. sing + f(y) Integrating w.r.t. y: -Z = cosx.cosy + ff(x) dy + f(x) 7 $Z = \cos x \cdot \cos y + u(y)$ (ver) $+ f(x) \in \mathbb{Q}$ By e11 (): - 32 - - cosx sing + f(y)

Here, 22 - 28ing = - coso sing + f(y) So, 1-f(y) = - 8iny = f(y) Pur f(4) = - 8iny in ear 0 ! -Z = Cosx. cosy + - sinydy + f(x) Z= cosn-cosy + cosy + fix) put, Z = 0 par y=7/2 (Given) 0 = COIN COI 3 + COI 3 + FIX [f(n)=0) = Z = cosxicosy + cosy of

