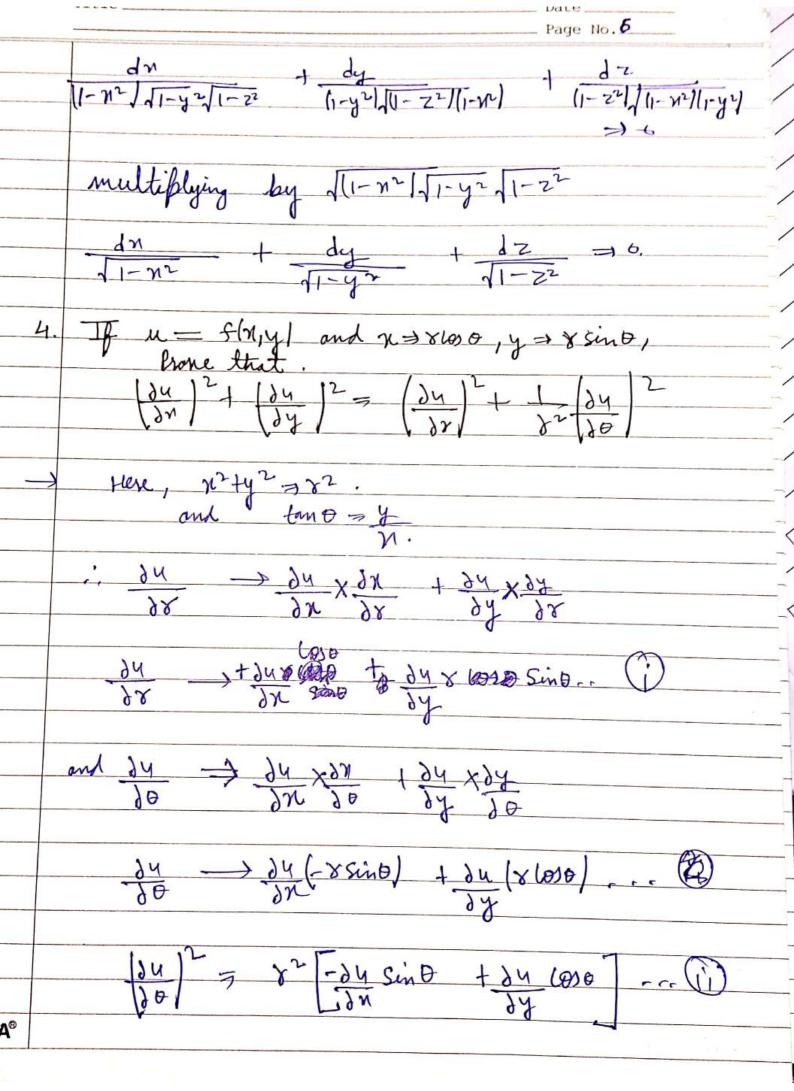
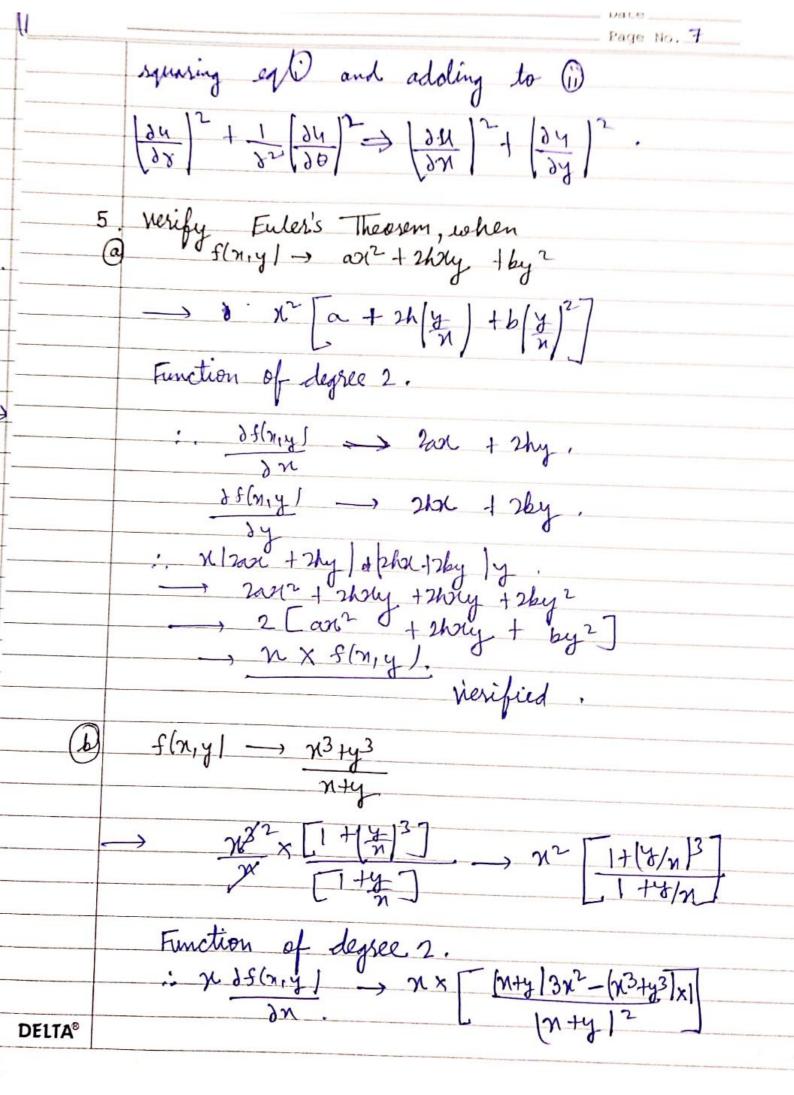


$$\frac{dz}{dy} = \frac{dz}{dv} \longrightarrow \frac{\lambda dz}{dx} - \frac{y}{dy}.$$

3 If 
$$\chi^2 + y^2 + z^2 - 2xyz = 1$$
.  
Show that
$$\frac{dx}{\sqrt{1-y^2}} + \frac{dy}{\sqrt{1-y^2}} + \frac{d^2}{\sqrt{1-z^2}} \Rightarrow 0$$

DELTA





Title	LatePage No3
-	> Nx [3n3 +3ny -N3 -y3]
-	$\rightarrow Nr \left[ \frac{2x^3 + 3x^2y - y^3}{(x+y)^2} \right]$
and y	$ \frac{1}{2x^4} + 3x^3y - xy^2 \dots (i) $ $ \frac{1}{2x^4} + 3x^3y - xy^2 \dots (i) $ $ \frac{1}{2x^4} + 3x^3y - xy^2 \dots (i) $ $ \frac{1}{2x^4} + 3x^3y - xy^2 \dots (i) $ $ \frac{1}{2x^4} + 3x^3y - xy^2 \dots (i) $
	$\rightarrow y \times \left[ \frac{3y^3x + 3y^3 - y^3 - y^2}{(x + y)^2} \right]$
	-> 3y3 x 43y4 - x3y - y4 (i)
oddin	g eglo x (ii)
-	5 x y + 3x3 h - xh3 + 3h3x + 5h y - x3h
	-> 212" + 2134 + 243x + 24" [n+y]
	-> 3 [.x4 + x3 + 43x + 42]
	$\rightarrow 2 \times [n^3 \ln + y] + y^3 (n + y)$
LTA®	-> 2(N3+y3) (verified).
	(nty)

Differentiating ego with respect to y. xory + dy + dy2 - 2 cosu dy - (iii) multiplying eg (ii) with n & eg (iii) with y, 20024-1/(20024-1/2014) -> (2 (210)24-1/x 25in 4 Cos4. -> (400 n - 360sn) singx Fu => ton y2, prone that  $x^2 \frac{\partial^2 y}{\partial n^2} + 2ny \frac{\partial^2 y}{\partial n\partial y} + y^2 \frac{\partial^2 y}{\partial y^2} \longrightarrow -\sin^2 u \sin 2u$ So, it is one degree equation. by Euler's theorem: n.

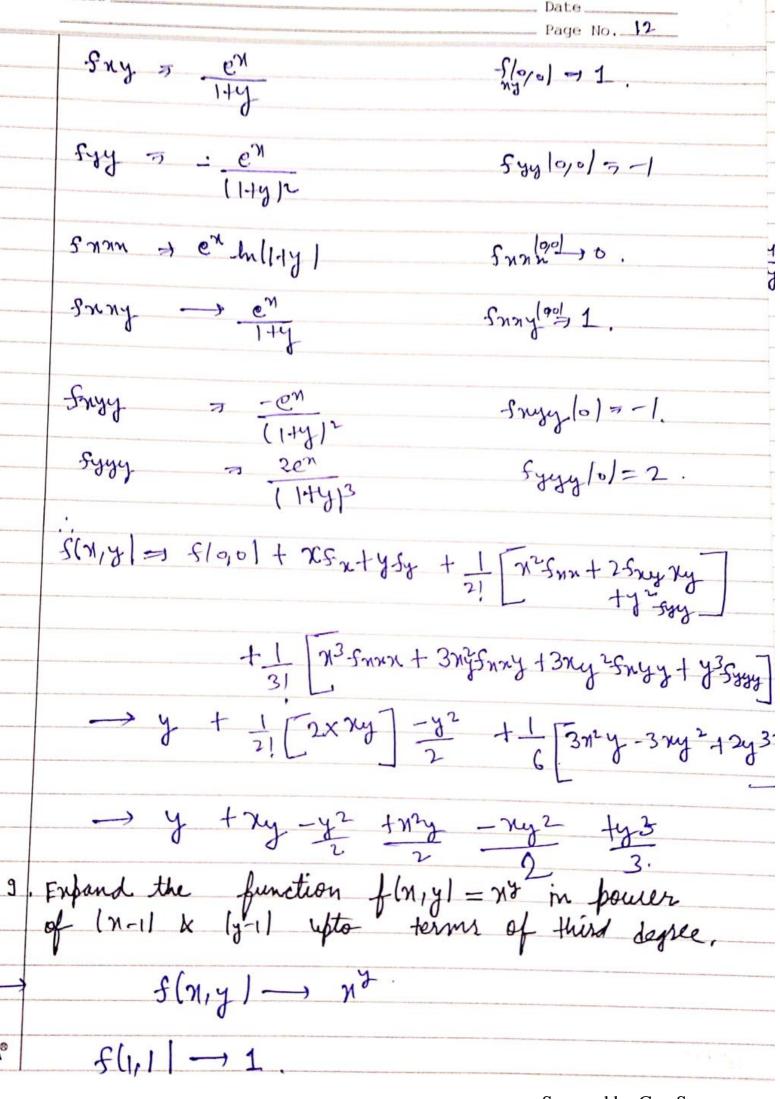
By Euler's theorem: n.

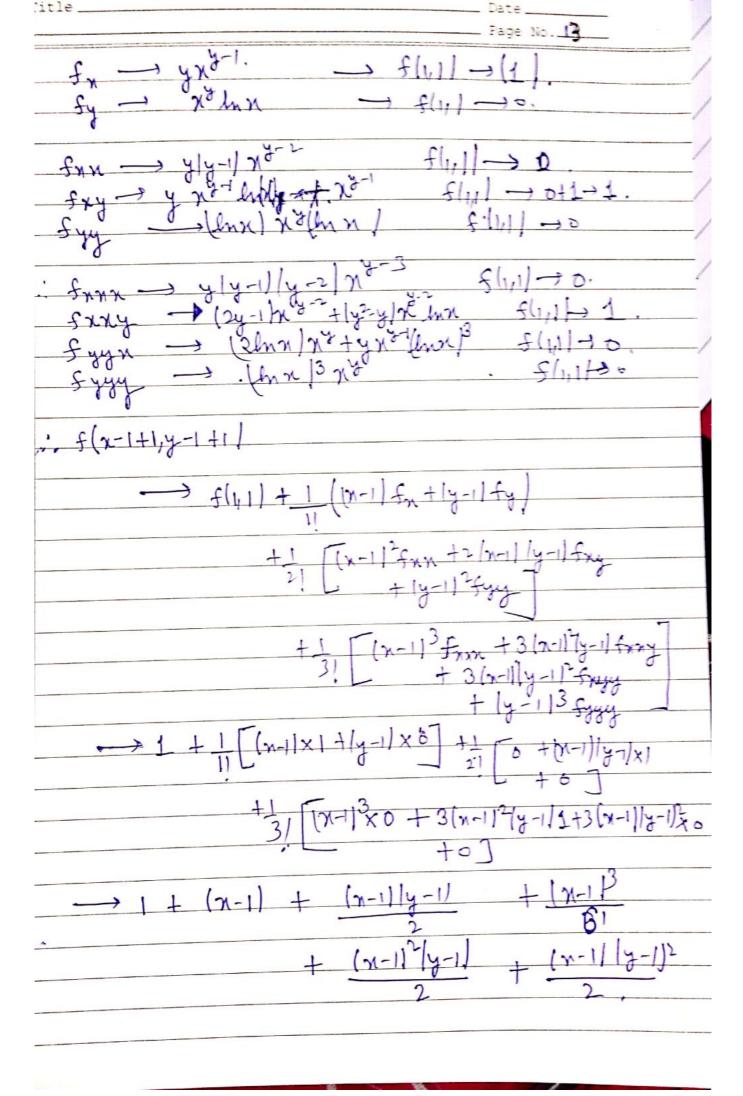
An (tomu) + yd (tomu) -> tomu. right + y dy = sin 24

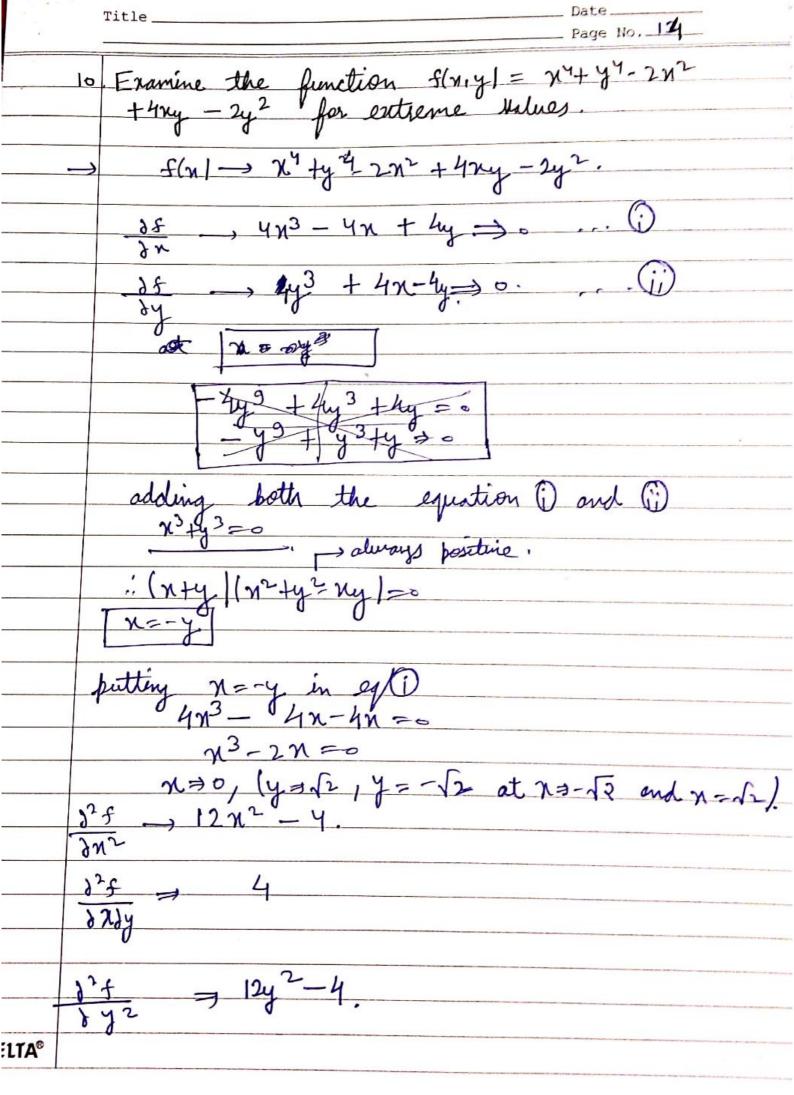
Differentiating equ with respect to n

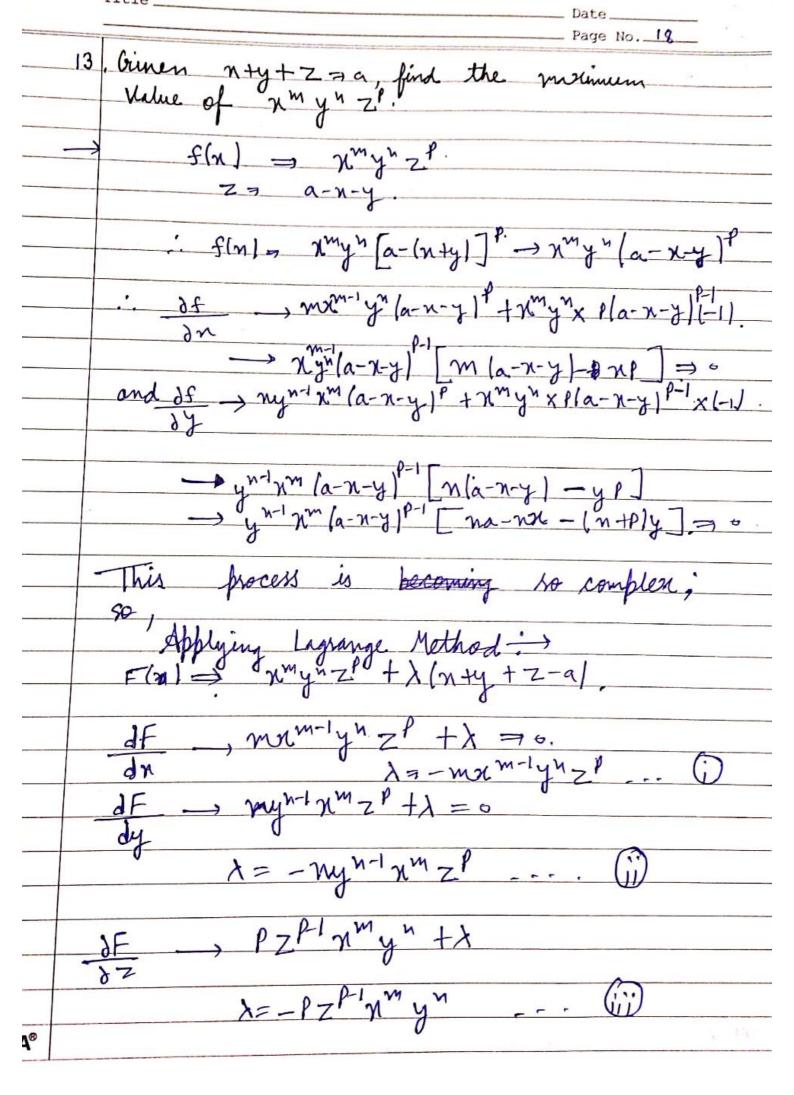
on + nyry + y 2ry \_\_\_\_\_ corrugue. (i) Differentiating eq (i) with respect to y,

\[
\frac{\frac{3^2u}{\dagger} + \frac{\dagger}{\dagger} + \frac{\dagger}{\dagge multiplying extil with x andiduith y and adding is now + x2324 + xy324 - xoxu toxu + ruggy + ydy + y2gy -> ydy coszu. -> x2/24 + 2xy/24 + y2/24 => (os 2u-1) (x/24 +y/34) -> (cos 24-1) x sin 24 (From eg/t) -> (20024-2) x Sin 24 8. Expand the function  $f(n,y) = e^{n}\log |1+y|$  in powers of x and y upto terms of third degree. f(n,y) = ex ln (1+y)
fx = ex ln (1+y)
fy = ex ln (1+y)
fy = ex ln (1+y) f(0/0) = 0 f/0/0/ -> 0 fylo,0)-1 frin => en en (1+4) fxx190170









quating (1) and (1).

me m-1y n 2k - ny n-1 nm 2k

y - ny n-1 nm 2k

y - ny n-1 nm 2k

(1) putting eq (i) and (i) in n+y+ -> [ma] x (an) x (h m+n+p) m+n+p mnn plamin+p

(m+n+p) m+n+p

