Ex: (y^2z) P+ $xzq = y^2$ [CT Fall 2023] Somi Given equ is of the foremula PP+99=R Lagrange's Auxiliary Equation is, 7 P= 13276 + d(2) $\frac{dx}{P} = \frac{dy}{g} = \frac{dz}{R}$ $\Rightarrow \frac{dx}{\left(\frac{y^2 + y}{x}\right)} = \frac{dy}{x^2} = \frac{dy}{x^2} = \frac{dy}{y^2}$ Sound a porchal diff. of I bon I want from Strom of the many from I from I want from the order of the from I want from I formand the sound of the formation of Taking 1st two Stractions (Jayo) 74 (Jo-x) 7 = 8 yte - dy report of the first of sold . The de though 3= 46 hosology to the bity => Now integrating it we get is most 3.0.7 is most of the control $\Rightarrow \frac{\chi^3}{3} = \frac{\chi^3}{3} + \frac{4}{3}$ > 22 y3 = C1 ... u (x, y, z) = x2-y2-4=0

Again choosing of 18+ and third fractions, + 950 1x2 Solve divent edit to of the forestall light to si was movied into Lagrange's Auxiliary Equation is $\frac{7b}{1} = \frac{xbx}{x}$ \Rightarrow $\int x dx = \int \dot{z} dz$ $\Rightarrow \frac{\chi}{2} = \frac{7}{2} + \frac{c_2}{2}$ $\Rightarrow \chi - z^2 = c_2$ · · · γ (x, y, z) = x2-z2-c2= General Solution is, $g(x^3-y^3, x^2-z^2)=0$ оп, g (x²-y²) = x²-z² 5 on, g (x2+2) = x3 = 3 = 1 Hind Junethans of (= (1816-1878) = (1816-1878) ()

Ex: 24P+ 479 = 72 il- [CT: Fall 2023] (350) Solu: Given equ is of the foremula PP+199=P Lagrange's Auxiliary Equation 15, 56 xbx $\frac{dx}{P} = \frac{dy}{9} = \frac{dz}{P}$ \Rightarrow (reduce = $(\dot{z} dz)$ 30 + 75 = 30 + 20 $\Rightarrow \frac{dz}{xy} = \frac{dy}{yz} = \frac{dz}{zx}$ ्र राष्ट्रिक मानु र्वेड र् Taking 1st two fraction, . N (30. D.) = 25-65 $\frac{dx}{xy} = \frac{dy}{yz}$ interest Solution is; S (32-70 15-EF) = 0 $\Rightarrow \frac{dx}{x} = \frac{dy}{z}$ => Sz dz = fredy (5-10) & 100 > Jacax = fay > Zx = xy + e1 50 => Imx - Iny + Inc > = C u(x, y, 7) = Zx-xy-9=0 third fraction, Aggiain choosing 1st and $\frac{dx}{xy} = \frac{dz}{zx}$ > 7x-47 = c2 ·. G.5. $\Rightarrow \frac{dx}{x} = \frac{dz}{z}$ g (Ex-xy, Zx-yz) = 0 > /2 9x = (A95

ex: P tanx + 9 tany = tamz [CT Fall 2023] (sec) Soln: Given egn is 10 fithe foremula Pp+ Dq = B Lagrange's Auxiliarry equation up is proliput de mosses $\frac{dx}{P} = \frac{dy}{9} = \frac{d7}{P}$ $\Rightarrow \frac{dx}{\tan x} = \frac{dy}{\tan y} = \frac{dz}{\tan z}$ - taking 15+ two fraction, Haking Ist and I and is to tanx = dt vo -tanx = dy -tany >> Scotx dx = Scotz dz >> Scotx dx = Scoty dy Tix-=> for |sinz | + Incz misinal = Insinyl tinci > Sink b = 500 c > In Sinn - In Bing = Inc (Sin 7 - e2 · u(x, y, 7) = Sing - C/70 2)-2144 = (2112, K) K 0 e. Cq5. is $\Rightarrow \oint \left(\frac{\sin \pi}{\sin \gamma}, \frac{\sin \pi}{\sin \gamma}\right) = 0$

Ex: 649 + 249 = 2 [CT: Fall 2023] 1 + Minst 9 Soln: Given eque is of the Formula PP+99=P Lagrange's Auxiliary Equation 153 possible e spenting $\frac{dx}{p} = \frac{dy}{g} = \frac{dz}{R}$ $\Rightarrow \frac{dx}{y^2} = \frac{dy}{-xy} = \frac{dz}{x}$ taking and 3rd tractions taking first two fraction, } $\frac{dx}{dy} = \frac{d^2}{dx}$ $\frac{dy}{-xy} = \frac{d^2}{dx}$ $\frac{dy}{dx} = \frac{d^2}{dx}$ $\frac{dx}{dx} = \frac{d^2}{dx}$ $\frac{dx}{dx} = \frac{dx}{dx}$ $\frac{dx}{dx}$ $\frac{dx}{dx} = \frac{dx}{dx}$ $\frac{dx}{dx} = \frac{dx}{dx}$ $\frac{dx}{dx} = \frac{dx}$ de dy sinot = dynb 3(40) (=> Sxdx = = y dy mis 12 M/1/2 | Michal = | Miss | M $\Rightarrow \frac{\chi^2}{2} = -\frac{y^2}{2} + \frac{\ell_1}{2}$ 3 y = -42+c21-18 > x+y2 = C1 > 4+4+ = C+ = (+181) .O.V (x,y,7) = Y+77-(2=6 G5. is

(9. is)

a (P+a) = $Z \Rightarrow ap + aq = Z$ boln: Given egn is ofor the Formula PP+99=P Lagrange's Auxiliary equation is, $\frac{dx}{R} = \frac{dy}{Q} = \frac{dz}{R}$ $\Rightarrow \frac{dx}{a} = \frac{dy}{a} = \frac{dz}{z}$ $\Rightarrow \frac{dx}{dz} = \frac{dz}{dz}$ $\Rightarrow \frac{dz}{dz} = \frac{dz}{z}$ -taking first two traction, } taking 1st and 3rd fraction, $\Rightarrow \int dx = \int dy \qquad \Big\{ \Rightarrow \Big(\frac{1}{a} dx = \int \frac{1}{z} dz \Big)$ => 2-y=c1 $\int_{0}^{\infty} \frac{1}{x^{2}} = \frac{1}$ = 1 1 1 1 2 1 1 C2 TE 193 y(x,y,7) = 2 - 1m2-C2=0 G5.13, Q(x-y), 2 mz) = 0 1

(-9-9) 1283 milents of Amis