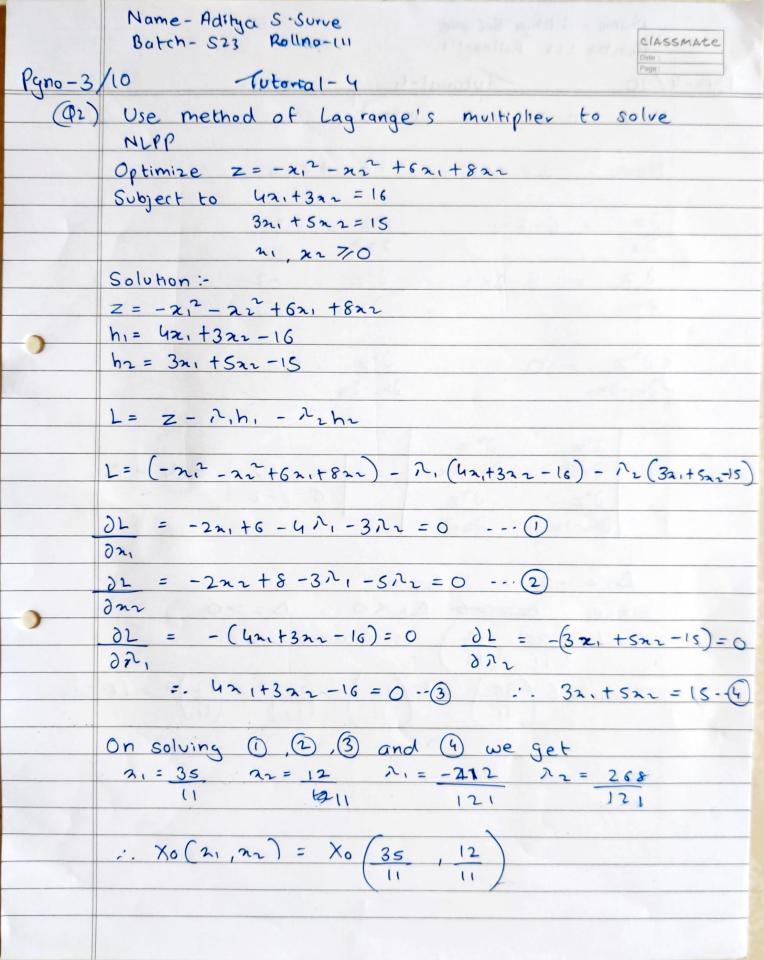
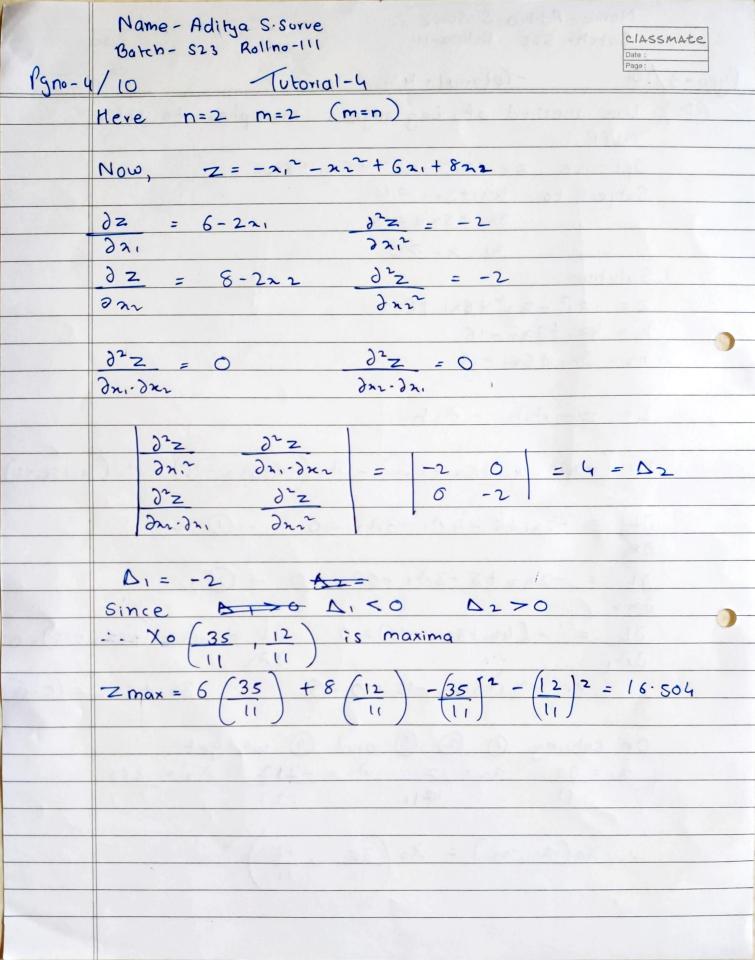
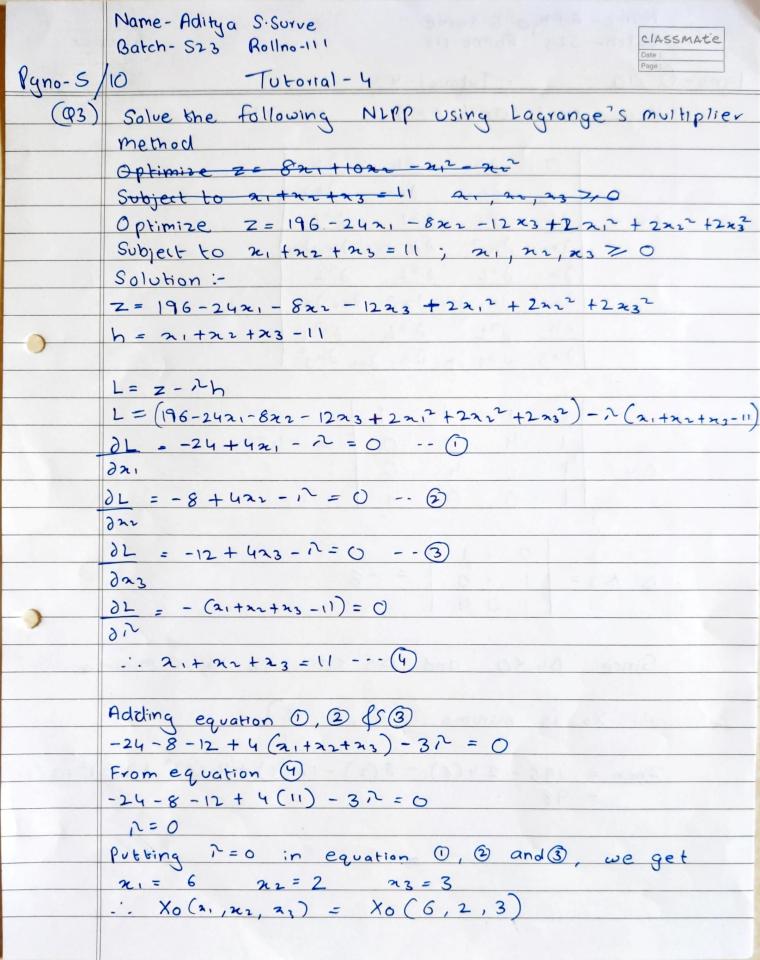
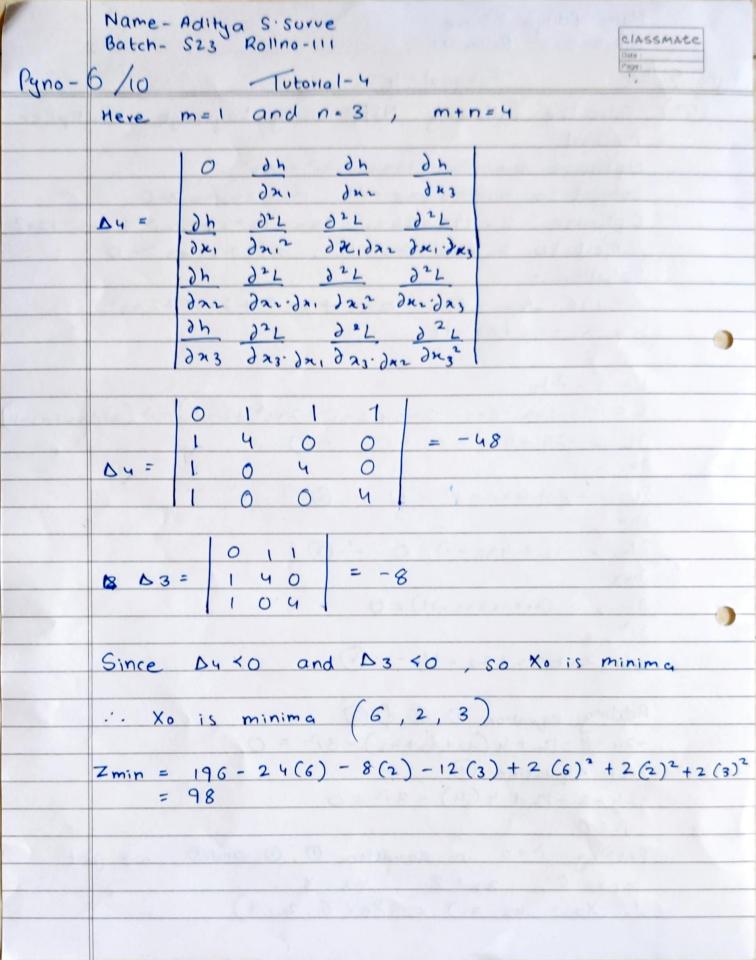


Name-Aditya S. Surve Batch-Szz Rollno-111 CIASSMATE 19no-2/10 Tutorial-4 Mence 21 = 4 , 22 = 2 and 23 = 1 :. Xo is (4,2,1) O dh dh dh da, dar das  $\partial h \partial^2 L \partial^2 L \partial^2 L$ **D**4 = 221 222 221. 22 221. 223 2h 22L 22L 22L dur dur.da, dur dur.dus dh 222 222 222 das das.dx, das.das das2 Dy = 1 2 0 0 1 0 2 0  $\Delta y = -12$  $\Delta_3 = \begin{vmatrix} 0 & 1 & 1 \\ 1 & 2 & 0 \\ 1 & 0 & 2 \end{vmatrix} = -4$ Since both 13 and 14 are negative Xo is minima -'. X1 = 4 X2 = 2 X3 = 1 :. Zmin = 16 + 4+1-40 -12 -4 = -35

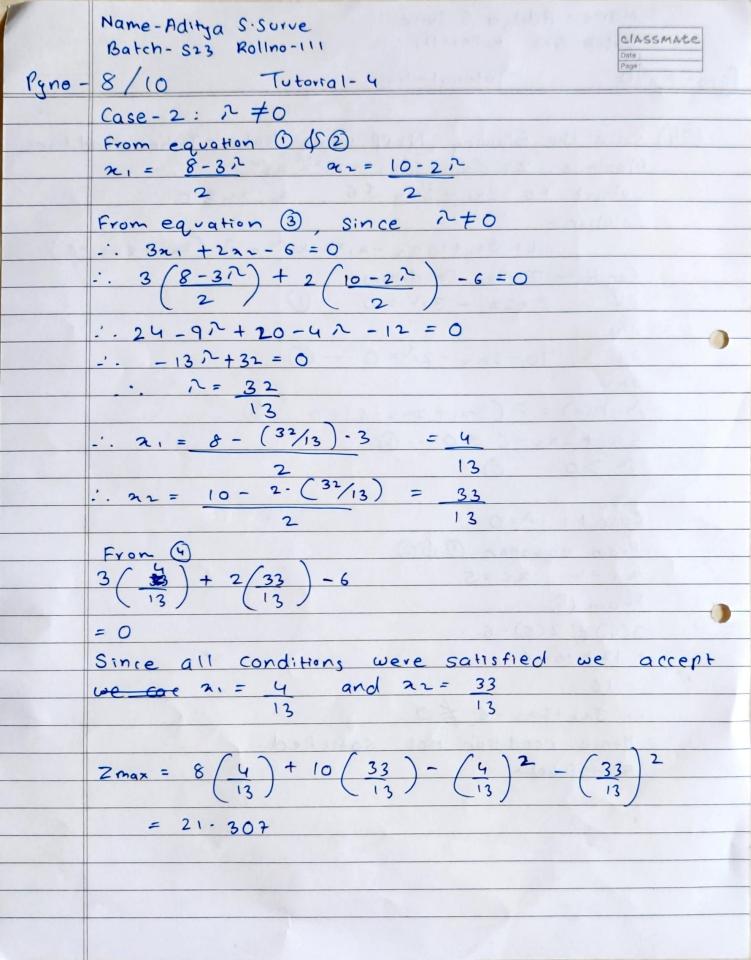








Name - Adity a S. Surve Batch- S23 Rollno-111 Classmate Pano-7/10 Tutorial-4 (04) Solve the following NLPP using Kuhn-Tucker conditions Maximise Z = 821 + 1022 - 212 - 222 Subject to 32, +222 56; 21, 22 >0 Solution: L= 82,+1022-2,2-22-1 (32,+222-6) Con Kuhn Tucker Conditions: DL = 8-22, - 37 = 0 -- 1 DL = 10-222-22=0 -- 2 7. h(x) = 2 (32, +222-6) = 0 -- 3 321+222-6 50 -- 4 7 70 -- 6 Case 1: 1=0 From equation 1 \$2 21=4 22=5 From (4) 3(4) + 2(5)-6 = 12+10-6 :. 3a, +2az-6 \$0 Hence condition not satisfied. satisfied. 5: 1



		Name - Adinga S. Surve
O		Batch - Szz Rollno-111
ra	10-9/	10 Tutorial-4
(	(95)	Solve the following NLPP using Kuhn Tucker
		conditions
		Maximise Z = 1221.22 + 2212 - 722
		Subject to 221+522 598
		21,22 70
		There volves and z=0
		Solution:
		We Brewite z = 122122 + 2212 - 722 = f(21,20)
-)		h(21,20) = 221+521-98
		$L = f(n_1, n_1) - i \left(h(n_1, n_1)\right)$
		L= (12 mm +2 m2 - 7 m2 ) - 2 (22+5 m - 98)
		14.)
		Kuhn-Tucker conditions are
		$\frac{\partial L}{\partial n} = 0 \qquad \frac{\partial L}{\partial n} = 0$
4		
		3) 1-h(n, n) = 0
		4) h(21, 22) <0 5) 270
)		
		We get,  1) $12n2+4n,-2n=0$
	a made	2) 1221 -1422 -51 =0
		3) ~( 2mi+5m2 -98)=0
		4) 2x, +5x2 -98 50
		5) 21,22,270

fano- Name-Aditya S. Surve CIASSMATE Batch-523 Rollno-111 Pgno-10/10 Tutoria1-4 Case 1: 2=0 From (1) and (2) we get 4n, +12n2 = 0 1221 - 1422=0 " n = 0 , 3t= 22 = 0 These values gives z=0 Case 2: 2=0 so 2x+5x2-98=0 -.. (6) Eliminating 2 from (1) and (2) we get 2021 +60 x2 +2822 -2421 =0 .'. 31-22 21 - 22m = 0 .. 21 = 2222 -- (7) Putting (7) in 6 2= 662 n, = 44 . From 176+24 = 212 These values satisfy all the necessary conditions Zmax = 2(44)2-7(2)2+12(44)(2) = 4900