2013

1

$$\label{eq:maximize} \begin{array}{ll} \text{Maximize} & z = 2x_1 + 3x_2 - 5x_3 \\ \text{subject to} & x_1 + x_2 + x_3 = 7 \\ \text{and} & 2x_1 - 5x_2 + x_3 \geq 10, \ x_i \geq 0. \end{array}$$

10

2

Solve the minimum time assignment problem:

15

Machines

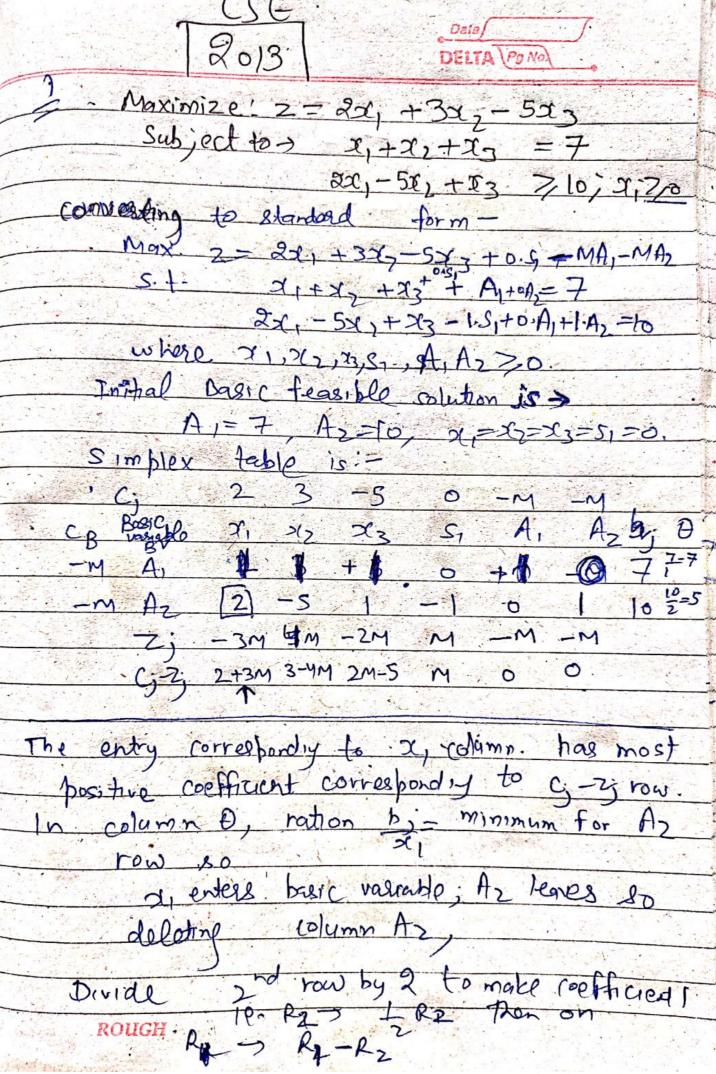
		M_1	M_2	M_3	M_4
Jobs	J_1	3	12	5	14
	J_2	7	9	8	12
	J_3	5	11	10	12
	J_4	6	14	4	11

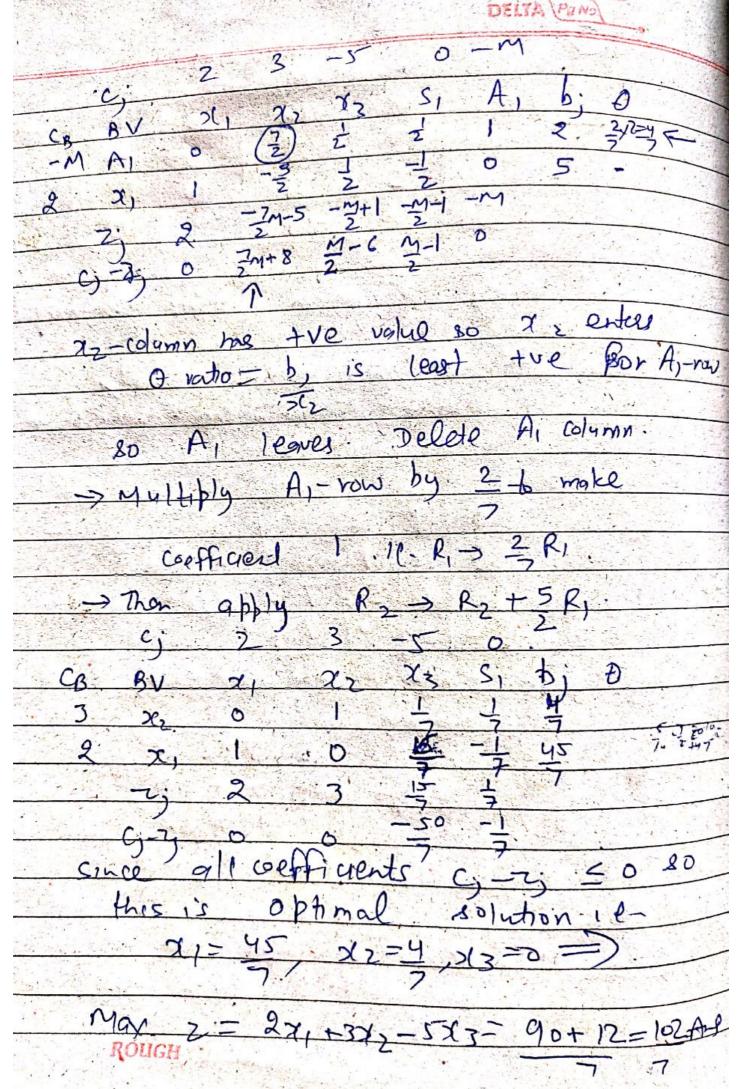
4

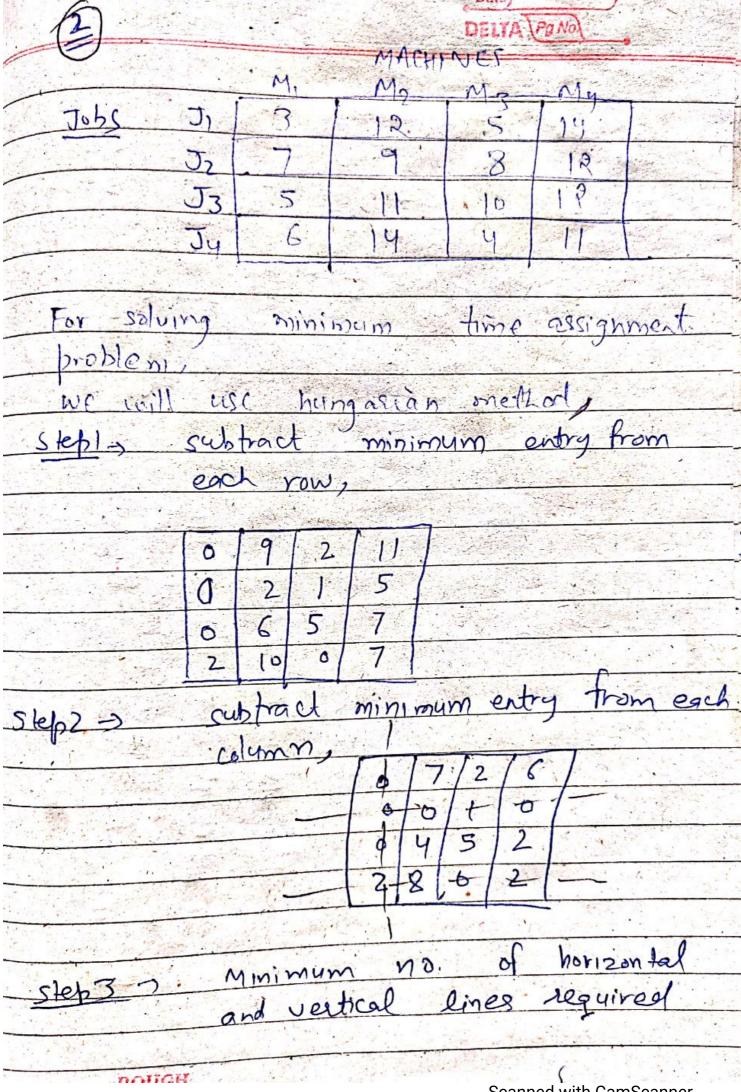
Minimize $z = 5x_1 - 4x_2 + 6x_3 - 8x_4$ subject to the constraints

$$\begin{aligned} x_1 + 2x_2 - 2x_3 + 4x_4 &\leq 40 \\ 2x_1 - x_2 + x_3 + 2x_4 &\leq 8 \\ 4x_1 - 2x_2 + x_3 - x_4 &\leq 10 \\ x_i &\geq 0 \end{aligned}$$

20

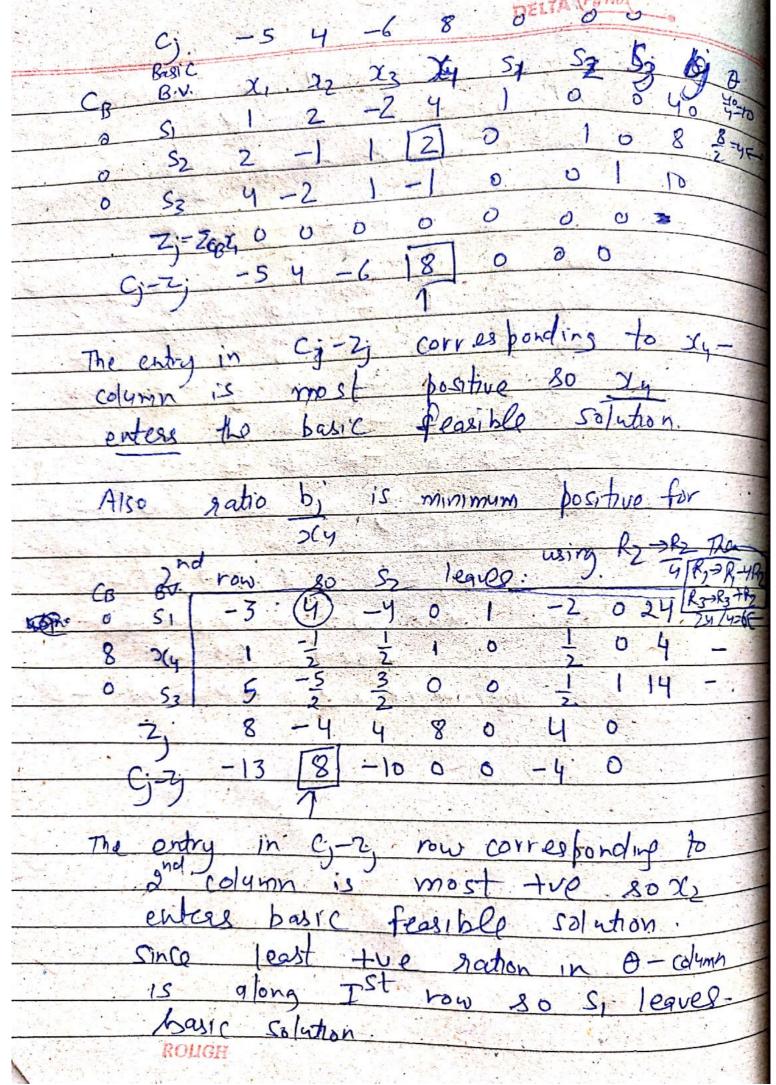






3/4-00-1					
to cover zeroes = 3 4 4= no of assignment					
to cover zeroes 80 solution is not optimal					
steby-) subtract least un covered element					
all uncovered examens.					
A land This to finding					
n line action and sight have in.					
at cell (2,1) and (4,1)					
at the thin					
1615 0 14					
4000					
shop 3 or Many Repeal Step 3. We get					
no of lines required = 4 20 oppmail					
assignment, is reached.					
step6 s selections single zero in any					
row or column and and					
remaining reises in that corresponding					
colymn or vow respectively, we get					
specific for					
61518101					
2018					
ROUGH 4 8 (6)					
Scanned with CamScanner					

80 optimal assignadent is JI->MI Ja -> M2 J3 -> My J4 -> M2 time = 3+9+12+4= 284wH] Minimum Minimize Z= 5x, -4x2 + 6x3 - 8xy 2(1+2x)-2x3 +4x4=40 2x1-x2 +x13 + 2x9 < 8 4x1-2x7+23--24 <16 なっつ converting it to standard maximized form Buitable for simplex method-Maximize w = Minimize (-Z) = -5x, +4x2 -6x3+8xy+0-5, +0.5,+0.53 subject tox1+2x2-2x3+4x4+1.5+0.52+0.53 = 40 25c1-x2+1/3+2xy+0-5,+1-5,+0-5=8 45c1 -2x2 + 23 -x4+05, +0.52+1.53 =10 2; si 70 + i=1,2,3. Instral basic fearble solution is -21=x2=x3=0=/43 S7=40; S2=8; S3=log Forming . simplex table, we got.



Divide Row coefficient 1 BV row elemen colution 30 89 ynd 80