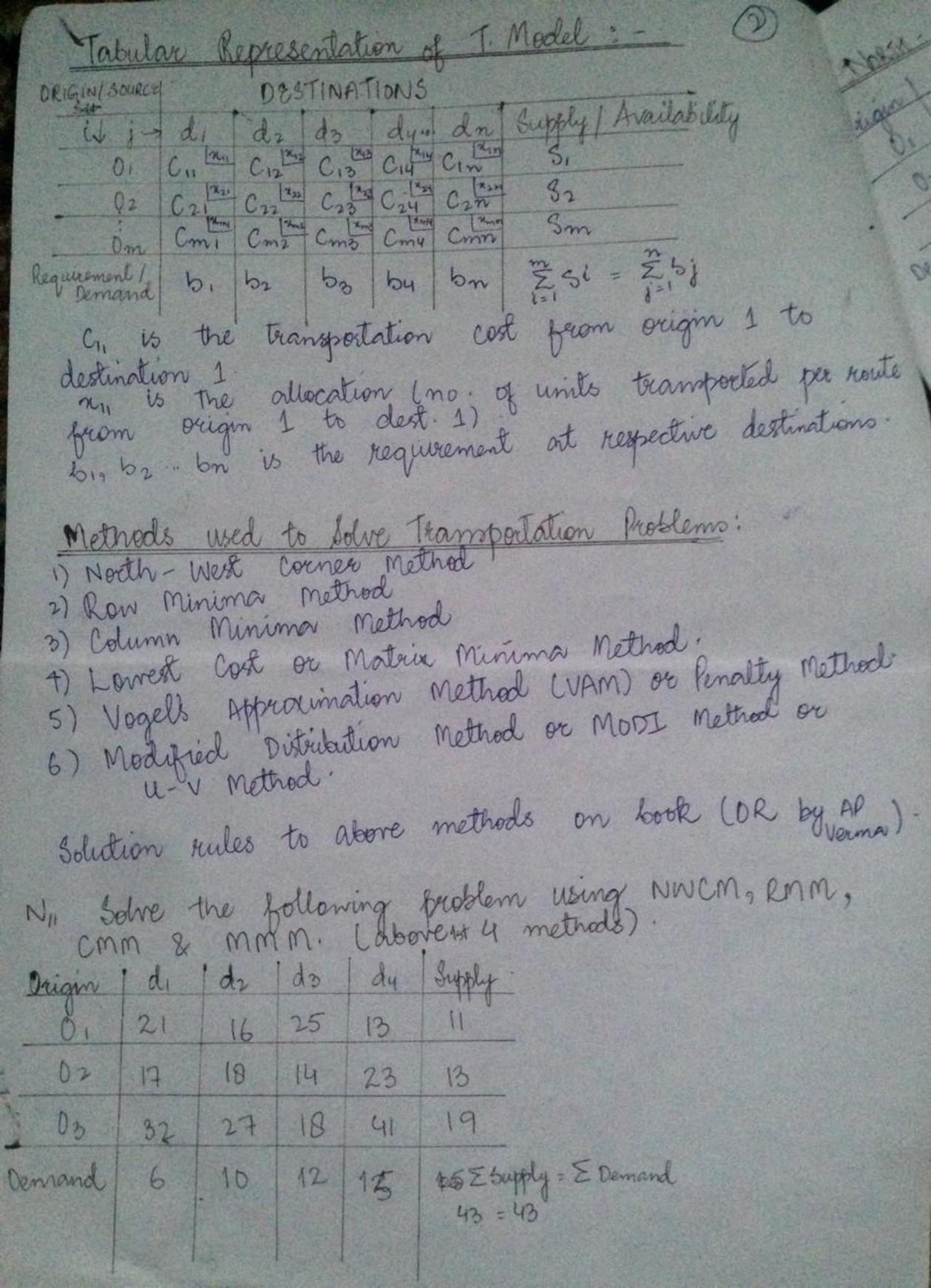
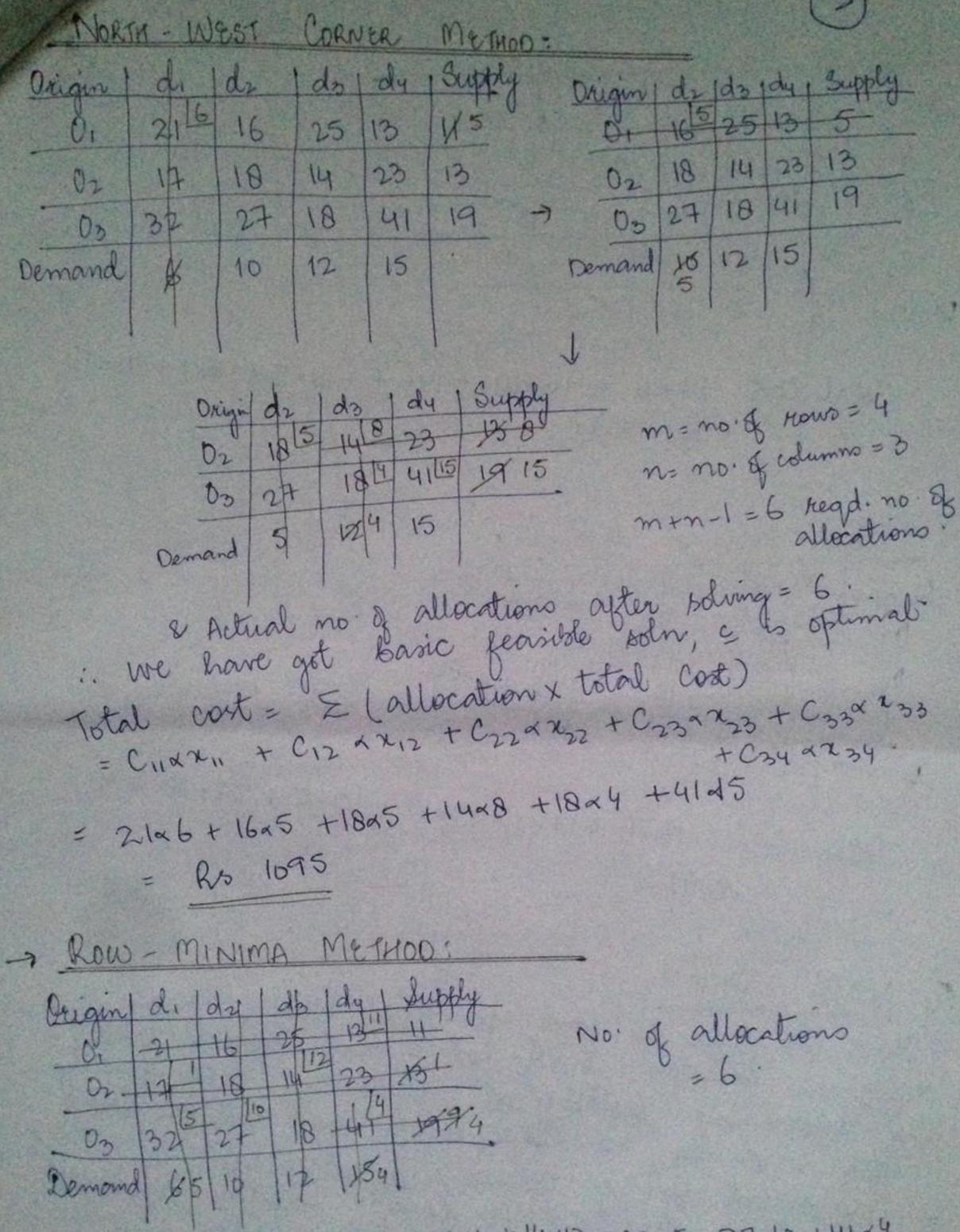
Course Name: Production & Operations Mgmt. Unit: II > Operation Research-II Er. Sadia Andaleeb Kansportation Model Problems: Introduction: In the previous semester, the general nature of LPP & its solution (graphical, simplex, etc.) was discussed However, as the number of variables & constraints increase, the computation becomes more difficult. One such model requiring simplified calculations is the distribution model or the transportation model. Transportation problem is one of the Sub-classes of UP in which the main objective is to transport various quantities of or single homogenous commodity that are initially stored at various origins, to different destinations in such a way took that total transportation cost is minimized to achieve this objective, we must know the amount & location of available supplies, the quantity demanded, in addition to the involvement of cost associated with each bending. Fearible Bolition. A fearible boln to a transportation problem is a set of non-negative allocations (units transported per nonte from origin to destination), xij that bottisfies the rim (now & column) restrictions. Definition of T. Model: -> Basic Fearible Solution. A soln that contains not more than m+n-1 non negative allocations, where m is the than minimizes (maximises) the transportation bost (profit) is called an Optimal solution:





Total Cost: 13x11 + 17x1 + 14x12 x 32x5 + 27x10 + 41x4
- Rs 922

Total Cost: 17x6 + 16x10 + 14x7 + 18x5 + 13x1 + 41x19
= Rs 1037

4) Matria	Minima	Method o
Origin de	1 25	1311 Aupply
04 17	1 18 14	2 23 131
03 32	5 27 18	194
Demand &	15/19/14	1 29'

Total Cost: 13x11+17x1+14x12+32x5+27x10+41x4

Here, we have to find penalities benalty means difference between lowest cost & next lowest cost. I difference between lowest cost & next lowest cost in now & column. Then the lowest cost cell is taken in now & column. Then the lowest cost cell is taken in publicated in publicated in penalty between available case. When there is tie in penalty between available assertions of them penalty is shown having maximum as allocations of the preferred to choose the cost difference allocations of the preferred to choose the cost difference allocations of the cost of preferred to choose the cost difference allocations of the cost of preferred to choose the cost difference allocations of the cost of the preferred to choose the cost difference allocations of the cost of the co

		di 1	d2 1	ds 1	dy 1	Available	Row Penalities
	01	-	2	1	4	30	1-1=09
1	02	3	3	2	110	5040	2-1=09
	03	4	2	5	9	20	4-2=09
	Regd.	20	140		10		
Col	umpienalitie	5 3-1=	2 2-2=1	0 2-1=	Ф 4-1-3		

01 d2 d3 Available R.P 01 20 20 3010 1-1=09 09 1 02 23 3119 2130 4010 3-2=1 91 91 02 23 3119 2130 4010 3-2=2 91 91 03 4 20 4020 30 C.P 3-1=2, 2-2=9 2-1=4 C.P 3-1=2, 2-2=9 2-1=4

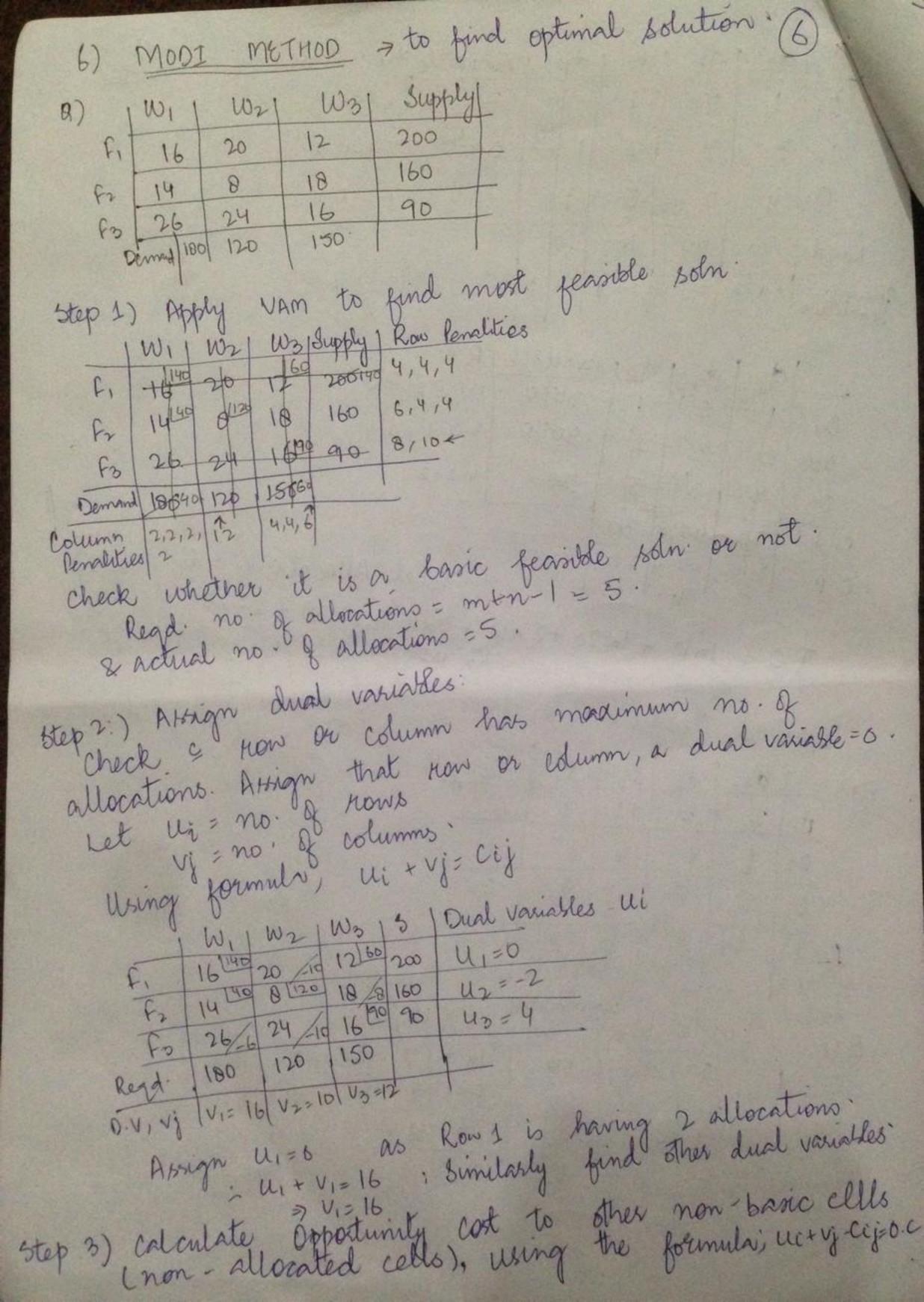
Total Allocations = 6.

T.C = 1×10 + 1×20 +2×10 +3×10+2×30 +2×20 = Ro 180.

Unsdred Questions on vam:

00,400						
1 (19	di 1	dz	da	dy	Supply.	
0,	2	3	11	7	6	
02	4	0	6	1	1	
00		8	15	9	10	
Regd		5	3	2.		
	1			hund		

82)	•	Wi I	Wz	rehouses W3	104	Capacity
CILI	FI	19	30	50	10	7
factory	Fz	70	30	40	20	9 18
0	F3	40	8	70	14	10
Regi	1.	5	8			



(T) 11+ 12-20=-10 { 20/-10}.

12+13-18=-8

13+11-26=-6

13+12-24=-10

Since all the values & O.C. are negative, we need not to reduce further cost. We have reached the optimal solution.

optimal solution.

- Total Cost: 16 × 140 + 12×60 + 14×40 + 8×120 + 16×90

- Rs 3920 =

Cases of MODI METHOD:

· Degeneracy Case Matria > Dummy Line

o d'allocations.