Unit 2

Transportation Problems

It is an extension of LPP.

(Q1.)

Factory (supply)	K_1 A	K_2 B	K_3 C	(demand) per unit transportation cost
D	5: 100	4: x	3: x	100
R_1 E	8: 200 →	4: 100	3: x	300
R_2 F	9: x	7: ↓ 100	5: → 200	300
R_3	300	200	200	700

Balanced Transportation Problem

- 2 stages :

1. Initial solution –
   i) North West Corner Solution Method
   ii) Vogel's Approximation Method (VAM).
2. Subsequent solution –
   i) Stepping Stone method
   ii) MODI (Modified Distribution) Method

- Rules for NWC Method :

1) Allocate as many units to the North West corner, ill can accomodate.
2) Strike out the exhausted cells.
3) If a row is exhausted, then move down, and if any column is exhausted, move right to the next column.
4) North West corner solution will have stair step pattern.

⇒ Number of occupied cells = R + C - 1

Here = 3+3-1 = 5 occupied cells.

NOTE:
After every table, check that no. of occupied cells are equal to R+C-1.

⇒ The cost of initial solution =
(100 x5) + (200 x8) + (100x4) + (100x7) + (200 x5) = ₹ 4200.

- Assignment 3:

Solve 2 transportation problems with North West Corner Solution Method.