

# TRANSPORTATION PROBLEM

- steps
- ① Obtaining an Initial Feasible Solution
    - North West Corner Rule
    - Least Cost Method
    - Vogel's Approximation Method
  - ② Testing for Optimality
    - ↳ Stepping Stone Method
    - ↳ Modified Distribution Method (MODI)
  - ③ Revising the Solution (if required) until optimal solution is obtained

# Transportation Problem mainly deals with Minimization Objective, but Solution to maximization objective can be obtained by making a small adjustment to the  $a_{ij}$  Matrix of Maximization  
For this, Determine the maximum value

value of the  $a_{ij}$ 's and from this, deduct the entire elements of the  $a_{ij}$  matrix to obtain a new matrix converted to a minimization problem. From the final solution, determine exact profit (maximum value of the objective function) using the original matrix.

- # Number of allocated cells should be  $(m + n - 1)$  otherwise the solution is degenerate.
- # The Problem should be a balanced problem i.e. equal sum of <sup>equal</sup> rows & columns. In case it is not balanced, we can balance it by introducing a row or a column,

as required with zero cost and assign the balance no. of dd or ss units, to make the problem balanced.

Then solve as usual.