4. (a) Write down a linear programming model of the transportation problem in the case when demand exceeds supply.

(b) Describe an algorithm to find the closed path of stepping-stones required by the transportation algorithm.

(c) Apply Vogel's rule to the following transportation problem and then perform ONE iteration of the transportation algorithm. State the resulting basic feasible solution and whether or not it is optimal.

	Destination 1	**Destination 2**	**Destination 3**	**Supply**
Origin 1	9	8	6	14
Origin 2	9	6	8	18
Origin 3	5	8	7	20
Demand	12	15	25	

(d) Write down three advantages the transportation algorithm has over the Simplex method for solving Transportation problems.