Assessment-12

The due date for submitting this assignment has passed. (Due on 2019-10-23, 23:59 IST)

1. By using the dual simplex method the optimal solution of the following L.P.P.
\[ \begin{align*}
\text{Maximize:} & \quad \text{Z} = 3x_1 + 2x_2 \\
\text{Subject to:} & \quad x_1 + x_2 \leq 6 \\
& \quad x_2 \leq 8 \\
& \quad x_1, x_2 \geq 0
\end{align*} \]

is given by:
\[ x_1 = 3, x_2 = 4 \]

2. The initial basic feasible solution of the following transportation problem, using north – west corner method

3. By using Vogel’s method, the optimum basic feasible solution of the following transportation problem

4. A marketing manager has 5 salesmen and sales – districts. Considering the capabilities of the salesmen and the nature of districts, the marketing manager estimates that the sales per month (in hundred rupees) for each salesman in each district would be as follows:

Then the assignment of salesmen to districts that will result in maximum sales are given by:
\[ \begin{align*}
\text{D1:} & \quad x_1 = 2, x_2 = 3, x_3 = 1, x_4 = 4, x_5 = 1 \\
\text{D2:} & \quad x_1 = 2, x_2 = 4, x_3 = 1, x_4 = 3, x_5 = 2 \\
\text{D3:} & \quad x_1 = 2, x_2 = 5, x_3 = 1, x_4 = 2, x_5 = 3 \\
\text{D4:} & \quad x_1 = 2, x_2 = 6, x_3 = 1, x_4 = 1, x_5 = 4 \\
\text{D5:} & \quad x_1 = 2, x_2 = 7, x_3 = 1, x_4 = 0, x_5 = 5
\end{align*} \]