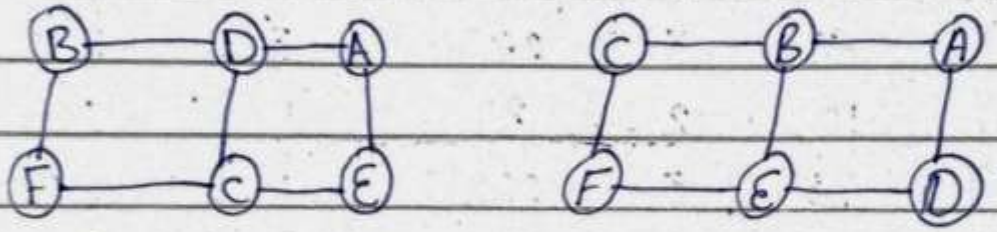
ID# 14252 Name : Khalid Malik. ~~P~~ 1

QNO. 01 : Which design is the better one.

Current design : Proposed design




| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| A | | 20 | | 20 | | 80 |
| B | | | 10 | | 75 | |
| C | | | | 15 | | 90 |
| D | | | | | 70 | |

P = 2.

## Calculation for two Designs

| Centers | Load | current design Distance | current design LD Score | Proposed design Distance | Proposed design LD Score |
|---|---|---|---|---|---|
| (A,B) | 20 | 2 | 40 | 1 | 20 |
| (A,D) | 20 | 1 | 20 | 1 | 20 |
| (A,E) | 80 | 3 | 240 | 3 | 240 |
| (B,C) | 10 | 2 | 20 | 1 | 10 |
| (B,E) | 75 | 3 | 225 | 1 | 75 |
| (C,D) | 15 | 1 | 15 | 3 | 45 |
| (C,E) | 90 | 1 | 90 | 1 | 90 |
| (D,E) | 70 | 2 | 140 | 1 | 70 |
| Total | | | 790 | | 570 |

So the Proposed design is better than Current design.

QNO. 02 Calculate the CT efficiency.

According to Flow chart

$$\text{Cycle Time efficiency} = \frac{\text{Process Time}}{\text{Cycle Time}}.$$

Now we find Cycle Time.

$$CT = 10+0.1*20+25+0.9*24+1.15(12+23+35)+15$$
$$= 10+2+25+21.6+13.8+26.45+40.25+15$$
$$= 154.1.$$

And Process Time.

PT = 186

Put the values in formula.

$$\text{Cycle Time efficiency} = \frac{186}{154.1}$$

$$= 1.2070$$