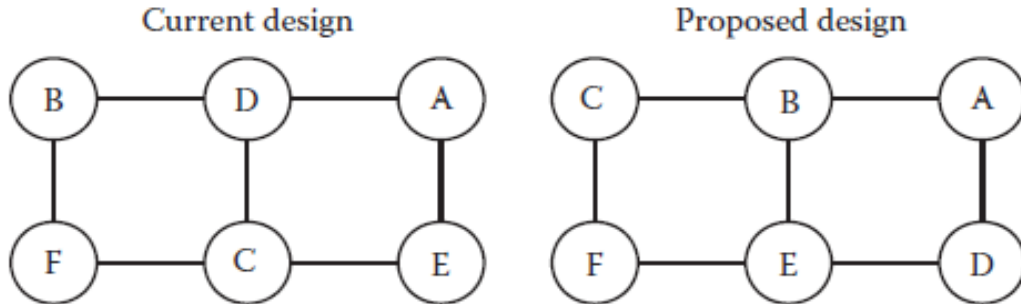


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Course: Business Process Engineering

**Question No: 01**

Compute Load Distance (LD) scores for the below given current and proposed designs and identify which design is the better one;



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

**Answer:**

The LD score between work centers *i* and *j* is found as follows:

➤  $LDscore(i, j) = Load(i, j) \times Distance(i, j)$

**LD Calculation for Two Designs**

| Centers      | Load | Current Design |            | Proposed Design |            |
|--------------|------|----------------|------------|-----------------|------------|
|              |      | Distance       | LD Score   | Distance        | LD Score   |
| (A,B)        | 20   | 2              | 40         | 1               | 20         |
| (A,D)        | 20   | 1              | 20         | 1               | 20         |
| (A,F)        | 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,F)        | 90   | 1              | 90         | 1               | 90         |
| (D,E)        | 70   | 2              | 140        | 1               | 70         |
| <b>Total</b> |      |                | <b>790</b> |                 | <b>570</b> |

**Question No: 02**

A process management team has studied a process and has developed the flowchart in Figure 3. The team also has determined that the expected waiting and processing times (in minutes) corresponding to each activity in the process are as shown in Table 1.

i. Calculate the average CT for this process.

➤ **Average CT:**  $10+10 \times 20+90 \times 24+25+15 \times (12+23+35)+15= 34.60$

ii. Calculate the CT efficiency.

➤ **CT efficiency = Process Time / CT**

Process time =  $12+10 \times 18+90 \times 30+17+1.15 \times (12+25+7) +10 =29.69$

**CT efficiency =  $34.60/29.69 = 1.17$**

| Activity | Waiting Time (Min) | Processing Time (Min) |
|----------|--------------------|-----------------------|
| A        | 20                 | 12                    |
| B        | 15                 | 18                    |
| C        | 5                  | 30                    |
| D        | 12                 | 17                    |
| E        | 3                  | 12                    |
| F        | 5                  | 25                    |
| G        | 8                  | 7                     |
| H        | 5                  | 10                    |
| I        | 15                 | 25                    |
| J        | 5                  | 20                    |
| K        | 4                  | 10                    |

