

Introduction To
Facility Design

Chapter # 6

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Submitted ~~TO~~

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Q#6.15 Using the data from problem 6.14 but assuming that the location of P/D...
 Pairwise exchange Method.

Solution

Product

Sequence

Weekly-Production

By constructing the Flow chart between different flows are given by.

Code	A	B	C	D
A	-	200	3300	700
B		-	200	2800
C			-	1200
D				-

Arrangements or Codes are given by

$$A B C D : 200(30) + 3300(45) + 700(75) + 200(15) + 2800(45) + 1200(30)$$

$$= 372,000$$

$$B A C D : 200(30) + 3300(15) + 700(45) + 200(45) + 2800(75) + 1200(30)$$

$$= 342,000$$

$$C B A D: 200(30) + 3300(75) + 700(15) + 200(45) \\ + 2800(45) + 1200(90) \\ = 507000$$

$$D B C A: 200(60) + 3300(45) + 700(105) + 200(15) \\ + 2800(45) + 1200(60) \\ = 435000$$

Now, exchange or switch the placement of A and B

$$A B C D: 200(30) + 3300(45) + 700(45) + 200(15) \\ + 2800(75) + 1200(30) \\ = 372000$$

$$C A B D: 200(30) + 3300(45) + 700(45) + 200(75) \\ + 2800(15) + 1200(90) \\ = 351000$$

$$D A C B: 200(60) + 3300(15) + 700(45) + 2800(10) \\ + 1200(60) \\ = 468000$$

Now, Compare all the layout arrangement By comparing it is observed that cost is less in B A C D layout arrangement also

45) In this layout, chances of over-lapping is less. So this layout arrangement is Best and final.

5)