

STEP 7:

Calculation of effective cost [E.C]

$$(1,2) = 2+1 = 3$$

$$(2,1) = 12+3 = 15$$

$$(3,5) = 2+0 = 2$$

$$(4,5) = 3+0 = 3$$

$$(5,3) = 0+12 = 12$$

$$(5,4) = 0+2 = 2$$

STEP 8:

L having edge (2,1) is the largest.

STEP 9: Delete (2,1) from C1 and make change in it as (1,2) $\rightarrow \alpha$ if exists.

Now Cost Matrix =

	2	3	4	5
1	α	15	3	2
3	14	α	2	0
4	44	18	α	0
5	1	0	0	α

STEP 10: The Cost matrix $\neq \alpha \times \alpha$

Therefore, go to step 1.

PHASE II:**STEP1: C2(R, R)**

	2	3	4	5
1	α	13	1	0
3	14	α	2	0
4	44	18	α	0
5	1	0	0	α

STEP 3: C2 (C, R)

	2	3	4	5
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Pick up an edge (i, j) with least cost index.

Here (1,5) $\rightarrow$ not possible because already chosen index i (i=j)

(3,5) $\rightarrow$ not possible as already chosen index.

(4,5) $\rightarrow$ 0

Hence, $T \leftarrow (3,2), (1,4), (4,5)$

Use $C1 =$

	1	2	3	4	5
1	α	0	15	3	2
2	0	α	12	22	20
3	18	14	α	2	0
4	3	44	18	α	0
5	15	1	0	0	α

Pick up an edge (i, j) with least index

(1,2) $\rightarrow$ Not possible

(2,1) $\rightarrow$ Choose it

HENCE $T \leftarrow (3,2), (1,4), (4,5), (2,1)$

SOLUTION:

From the above list

3—2—1—4—5

This result now, we have to return to the same city where we started (Here 3).

Final result:

3—2—1—4—5—3

Cost is $15+15+31+6+7=64$