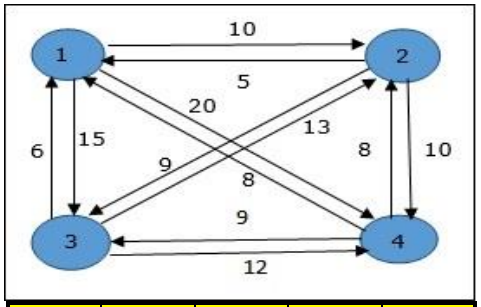
TRAVELLING SALESMAN PROBLEM USING DYNAMIC PROGRAMMING METHOD



COST MATRIX

	1*	2	3	4
1*	0	10	15	20
2	5	0	9	10
3	6	13	0	12
4	8	8	9	0

HOME NODE {1} **TRAVERSING NODES** {2,3,4}

POWER SET OF TRAVERSING NODES

{ϕ, (2), (3), (4), (2,3), (3,4), (4,2), (2,3,4)}

ANSWER

PATH 1->2->4->3->1 **LENGTH** **35**

TIME COMPLEXITY $2^n n^2$

	2	3	4	1 (HOME)
φ	**5**	**6**	**8**	0
{2}	0	**c32+c21=13+5=18**	**c42+c21=8+5=13**	0
{3}	**c23+c31=9+6=15**	0	**c43+c31=9+6=15**	0
{4}	**c24+c41=10+8=18**	**c34+c41=12+8=20**	0	0
{2,3}	0	0	**c42+g(2,{3})=8+15=23** c43+g(3,{2})=9+18=27 **min = 23**	0
{3,4}	c23+g(3,{4})=9+20=29 **c24+g(4,{3})=10+15=25** **min = 25**	0	0	0
{4,2}	0	**c34+g(4,{2})=12+13=25** c32+g(2,{4})=13+18=31 **min = 25**	0	0
{2,3,4}	0	0	0	**c12+g(2,{3,4})=10+25=35** c13+g(3,{2,4})=15+25=40 c14+g(4,{2,3})=20+23=43 **min = 35**