



# SIDDAGANGA INSTITUTE OF TECHNOLOGY, TUMKUR-03

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### NETWORK PROGRAMMING LAB (7CSL01)

Program No : 1				Date:
Student Name:		USN:		Batch No:
<b>Evaluation:</b>				
Observation writing and File maintenance (10 Marks)	Clarity in concepts (05 Marks)	Implementation and execution of the program (10 Marks)	Viva (10 Marks)	Total (35 Marks)
Sl.No	Name of the Faculty In-Charge			Signature
1.				
2.				

#### Question No. 1

For the given network graph, write a program to implement Link state routing algorithm to build a routing table for the given node.

#### Pre-requisite

Algorithm/Logic of the program:

##### 1. Initialization

$N = \{A\}$  // A is a root node.

##### 2. for all nodes v

if v adjacent to A

then  $D(v) = c(A,v)$

else  $D(v) = \text{infinity}$  loop

##### 3. find w not in N such that $D(w)$ is a minimum.

##### 4. Add w to N

##### 5. Update $D(v)$ for all v adjacent to w and not in N.

##### 6. $D(v) = \min(D(v), D(w) + c(w,v))$

##### 7. Until all nodes in N ( go to step 3 if there is a node which is not in network)