URBAN TRANSPORTATION PLANNING

(Video Course under NPTEL)

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Questions for Self Evaluation

MODULE 6: ROUTE ASSIGNMENT

1. Explain the three primary aspects to be dealt with before assigning traffic to urban transport network.

2. Develop a minimum-path tree for travel from node 1 to all the other nodes in the road network shown in the following Link Array. Do the calculations as per the algorithm and show the details in a tabular form.

i \ j	1	2	3	4	5	6	7	8	9	10	11	12	13
1						5							
2							3						
3								4					
4											4		
5												3	
6	5						8		5				
7		2				7		4		7			
8			4				6						
9						6				3		7	
10						4	5		3		5		
11				4				5		5			10
12					2				7				6
13											10	5	

3. The details of travel time and capacity of different links in a portion of a city road network is as given the following table. Assign a traffic volume of 10,000 PCU per hr. from node 1 to node 20 by multiple route assignment technique. It is to be noted that routes with travel time less than 1.5 times the travel time by the shortest route alone will be considered as alternative routes for travel.

Link	Travel time in minutes	Practical capacity in PCU/hr.
1 – 11	3	10,000
11 – 12	2	8,000
11 – 15	2	7,000
12 – 16	2	9,000
15 – 18	3	8,000
16 – 17	3	6,000
16 – 20	2	7,000
17 – 20	3	5,000
18 - 20	2	3,000

4. Discuss the problems and prospects of application of capacity restrained traffic assignment technique under Indian conditions.

5. Write a note on transit-trip assignment.