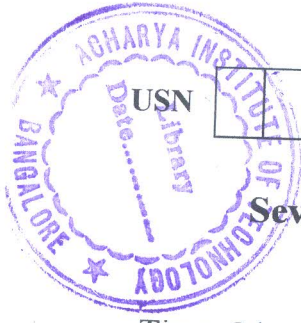


# CBCS SCHEME



15CV751

## Seventh Semester B.E. Degree Examination, July/August 2021 Urban Transportation and Planning

Time: 3 hrs.

Max. Marks: 80

*Note: Answer any FIVE full questions.*

- 1 a. Define Urbanization. What are the causes of urbanization? (08 Marks)  
 b. With the aid of flow diagram explain the details of urban transport system planning process. (08 Marks)
- 2 a. With the aid of sketch describe the details of mass transport system. (08 Marks)  
 b. Distinguish between BRTS and Metro rails. (05 Marks)  
 c. Briefly explain the modeling technique in transport planning. (03 Marks)
- 3 a. Define study area. What are the factors to be considered for external urban line? (06 Marks)  
 b. In detail explain the concept of road interview survey. (10 Marks)
- 4 a. Define zone. What are the factors to be considered for making zones? (08 Marks)  
 b. Explain the details of home interview survey. (08 Marks)
- 5 a. Briefly explain the details of UTPS approach. (05 Marks)  
 b. What are the disadvantages of zonal least square regression model? (05 Marks)  
 c. Determine the trip distribution between the zones for the following data by using uniform growth factor method. Assume initial growth factors as 1, 3 and 6.

	D	1	2	3
O		1	2	3
1		60	100	200
2		100	20	300
3		200	300	20

- 6 a. With the assumptions explain the concept of category analysis. (06 Marks)  
 b. Find the trip interchange between the zones for the following data by using Furness method. Assume initial origin growth factor of zone 1, 2, 3, 4 as 3.5, and 1.5, 1.1, 1.2 and initial destination growth factor of zone 1, 2, 3, 4 as 1.5, 1.0, 2.0, 3.0 respectively. (08 Marks)

	D	1	2	3	4
O		1	2	3	4
1		8	3	16	15
2		6	9	8	5
3		10	8	3	8
4		2	4	7	12

(08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.

- 7 a. The total trips produced in and attracted to the three zones A, B and C of a survey area in the design year are tabulated as :

Zone	Trips Produced	Trips Attracted
A	2000	3000
B	3000	4000
C	4000	2000

It is known that the trip between the two zones are inversely proportional to the second power of the travel time between zones, which is 20 minutes. If the trip interchange between zones B and C is known to be 600, calculate the trip interchange between zones A to B, A to C, B to A and C to B.

- (08 Marks)
- b. Explain the concept of Intervening Opportunities model. (08 Marks)
- 8 a. Write the various phases calibration of gravity model. (05 Marks)
- b. With the aid of flow diagram explain
- (i) Modal split after trip generation but before trip distribution.
- (ii) Modal split after trip distribution. (08 Marks)
- c. Briefly explain the details of Tanner's model. (03 Marks)
- 9 a. What are the applications of traffic assignment? (05 Marks)
- b. Explain the concept of all or nothing assignment. (08 Marks)
- c. Write a brief note on minimum path tree. (03 Marks)
- 10 Write a short notes on :
- a. Diversion curves
- b. Capacity restraint techniques
- c. Reallocation of assigned volumes
- d. Land use planning models. (16 Marks)

\* \* \* \* \*