

# CBCS SCHEME

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17CV751

## Seventh Semester B.E. Degree Examination, Feb./Mar. 2022 Urban Transportation and Planning

Time: 3 hrs.

Max. Marks: 100

**Note:** Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Explain briefly the various stages involved in Transportation Planning Process. (10 Marks)  
b. Explain the problems in the Urban transportation in the present scenario. (10 Marks)

OR

- 2 a. Explain the system approach to transport planning using a flow chart. (10 Marks)  
b. Write a note on the following :  
i) BRTS ii) Metro Train. (10 Marks)

### Module-2

- 3 a. Define External cordon line. What factors should be given due weightage in the selection of external Cordon line? (10 Marks)  
b. What is Zoning? Discuss the points to be kept in mind while doing Zoning. (10 Marks)

OR

- 4 a. Mention the different types of transport surveys. Explain various inventories that are needed for providing transport facilities. (10 Marks)  
b. What are the methods of Origin and destination study? Explain Home interview method in detail. (10 Marks)

### Module-3

- 5 a. What are the factors governing Trip Generation and Attraction Rates? Explain each factor. (10 Marks)  
b. Explain Multiple Linear Regression Analysis [MLR] and list the assumptions in Multiple Linear Analysis. (10 Marks)

OR

- 6 a. What is Trip Distribution? Explain the methods of Trip Distribution. (10 Marks)  
b. Estimate the future trip distribution by Furness Method (Upto two Iterations) from the following data : (10 Marks)

O \ D	1	2	3	4	Future Trips
1	8	3	16	15	147
2	6	9	8	5	42
3	10	8	3	8	29
4	2	4	7	12	25
Future Trips	39	24	68	120	

**Module-4**

- 7 a. Explain the Gravity Model of Trip Distribution. (08 Marks)
- b. A Self contained town consists of four residential areas A, B, C and D and two Industrial estates 'X' and 'Y'. Generation equations show that for the design year in question, the trips from home to work generated by each residential area per 24 hour day are as follows :  
 A - 1000 ; B - 2250 ; C - 1750 ; D - 3200.  
 There are 3700 Jobs in Industrial estate 'X' and 4500 Jobs in Industrial estate 'Y'. It is known that the attraction between zones is inversely proportional to the square of the Journey times between zones. The Journey times in minutes from home to work are :

Zones	X	Y
A	15	20
B	15	10
C	10	10
D	15	20

Calculate and tabulate the inter zonal trips for Journeys from Home to work. (12 Marks)

**OR**

- 8 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 :

Zones	Trips produced	Trips attracted
A	2000	3000
B	3000	4000
C	4000	2000

It is known that the trips between two Zones are inversely proportional to the second power of the travel time between Zones, which is uniformly 20 minutes. If the trip interchange between Zones B and C is known to be 600. Calculate the trip Interchange between Zones A & B , A & C , B & A and C & B. (10 Marks)

- b. Define Model Split. Explain in brief the factors affecting Model Split. (10 Marks)

**Module-5**

- 9 a. Explain the concept of Quick Response Technique. (10 Marks)
- b. Explain the difficulties in transport planning for Small and Medium Cities. (10 Marks)

**OR**

- 10 Write short notes on :
- Capacity Restraint Technique.
  - Diversion curves.
  - Equilibrium Assignment.
  - Lowry Model.
- (20 Marks)

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