

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**M.Tech., Winter 2019–20 Examinations**

**Semester: 1**  
**Subject Code: 203211132**  
**Subject Name: Urban Transportation Planning**

**Date: 19/12/2019**  
**Time: 10:30am to 1:00pm**  
**Total Marks: 60**

**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1** A) What is zoning? Discuss the points to be kept in mind while doing zoning. (05)  
 B) List out the different steps of transportation planning. (05)  
 C) Define the following terms :- (05)  
 (i) Trip (ii) Mobility (iii) Accessibility (iv) Base year (v) Zone

- Q.2 Answer the following questions.** (Attempt any three) (Each five mark) (15)  
 A) Enlist and explain the factors affecting the route assignment.  
 B) What is the importance of transportation planning?  
 C) Compare between BRT and LRT system.  
 D) What are the objectives of Land Use Planning?

- Q.3** A) Explain Trip Interchange Model. (07)  
 B) The trip rate (y) and the corresponding household sizes (x) from a sample are shown in table below. Compute the trip rate if the average household size is 3.25. (08)

	Household size(x)			
	1	2	3	4
Trips per day(y)	1	3	4	5
	3	4	5	8
	3	5	7	8

**OR**

- B) A study area has been divided into four zones A, B, C, & D. The results of trip generation analysis and the present trip distribution matrix are included in the following tables. (08)

		A	B	C	D
Produced Trips	Present	150	90	180	80
	Future	300	170	270	240
Attracted Trips	Present	120	100	150	130
	Future	180	300	300	200

Trip Distribution matrix at present:

O / D	A	B	C	D
A	40	40	40	30
B	20	20	30	20
C	40	30	50	60
D	20	10	30	20

Make future trip distribution matrix using (1) Uniform growth factor method (2) Average growth factor method.

- Q.4** A) What are methods of origin and destination survey? Explain home interview method in detail. (07)

**OR**

- A) Explain Road Inventory Survey in Detail. (07)  
 B) Enlist Growth factor methods for trip distribution. Explain Fratar Method. (08)