PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Summer 2018 - 19 Examination

Semester: 6   Date: 09/05/2019
Subject Code: 03104381   Time: 10:30am to 01:00pm
Subject Name: Urban Transportation System   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 Objective Type Questions - (All are compulsory)   **(15)**
A) Fill in the blanks.   **(05)**
  1. No. of dependent variable in linear variable equation is _____

  2. Two major aspect in travel demand analysis are _____

  3. The imaginary barrier line which divides the study area is termed as _____

  4. Write down the formula for Furness method _____

  5. Percentage of vehicle arrivals with less than a fixed time deviation from schedule is referred as _____

B) One word answer.   **(05)**
1. What is formula for uniform growth factor method?
2. What is the formula for parking index?
3. Write down the example of circular combined with radial street system.
4. Which movement is useful for planning a bye pass?
5. Write the formula for passenger capacity?

C) Multiple Choice Questions.
1. Among the following city which is a boom city   **(05)**
 (a) Delhi   (b) Kota   (c) Surat   (d) Vadodara

2. Which of the following is an Informal Terminal?
(a) Curb Parking   (b) Bus Stops   (c) Garages   (d) Airports
3. Which is methods used to calculate trip generation
 (a) Regression Method   (b) Fratar Method   (c) Polynomial method   (d) Opportunity model

4. What is the PCU value for passenger bus?
(a) 1   (b) 0.5   (c) 2   (d) 3
5. What is the full form of BRTS?
(a) Bus Rail Transit System   (b) Bus Rapid Transit System   (c) Bus Rapid Transport System
(d) None

Q.2 Answer the following questions. (Attempt any three)   **(15)**
A) Why urbanization takes place?
B) What is uniform growth factor method? The distribution of present trips of zones A, B and C and future trips generated (Ti) are also given. Distribute the future trips using uniform Growth Factor Method.

O \ D	A	B	C	T_i
A	60	100	200	360
B	100	20	300	1260
C	200	300	20	3120

C) What are the various factors affecting the Travel Demand?
D) Write a short note on:
 (a) Gravity Model (b) O-D survey (c) CBD   (d) Advantages of metro

Q.3 **A)** (1) Write the short note on trip distribution. **(07)**

(2) Write down the comparison between Metro Rail system & Bus Rapid Transit system.

B) The table shows data for vehicle trips per day as related to average household size for one zone of the study area. Develop the linear regression equation for trip generation. **(08)**

Average Household size	Trips per day
2	4
3	6
4	7
5	8
6	10

OR

B). The three zones A, B, and C are shown in the table with trip interchanges. Using Fratar method, compute the zonal interchanges for the forecast year. Solve the question for one iteration. **(08)**

O-D	A	B	C	Growth Factor
A	0	25	41	2.3
B	25	0	32	2.9
C	41	32	0	1.65
Growth Factor	2.3	2.9	1.65	

Q.4 **A)** (1) Explain transportation planning process with the help of flow chart. **(07)**

(2) What is Human Settlement? Explain the classification of human settlement.

OR

A) (1) What are the various types of surveys conducted for traffic? **(07)**

(2) Explain the corridor component with diagram.

B) (1) What are the various factor affecting trip generation? **(08)**

(2) Enlist different growth factor models for trip distribution. Explain in detail two models.