Seat No: _____ Enrollment No: _____

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

M.Tech., Winter 2018 - 19 Examination

Semester: 1 **Date: 13/12/2018**
Subject Code: 203211132 **Time: 10:30am to 01:00pm**
Subject Name: Urban Transportation Planning **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) Explain Urban transportation system planning **(05)**
B) State different transportation survey and explain any one **(05)**
C) Define 1- Study area 2-Trip Production 3- Screen line
4- Cordon line 5- Centroid **(05)**

Q.2 **Answer the following questions**. (Attempt any three) (Each five mark) **(15)**
A) Explain Opportunity model
B) Enlist different Growth factor method and explain any one
C) Explain Aggregate and disaggregate approaches to travel demand with their advantage and disadvantage
D) Explain Logit Models for mode Choice

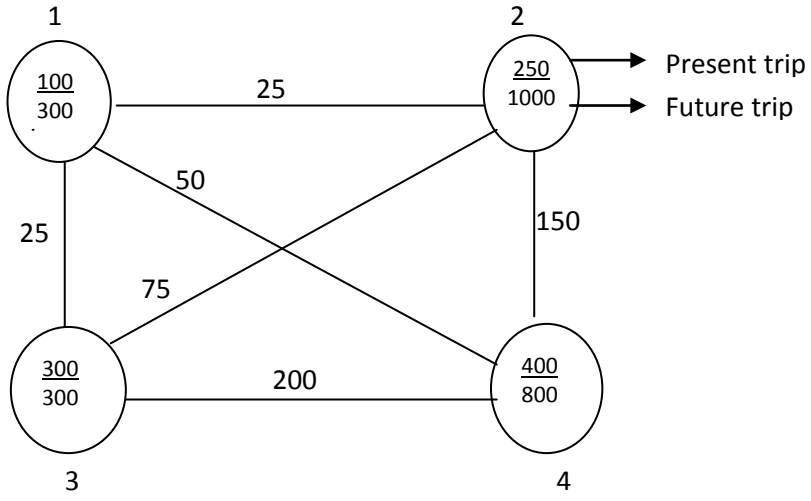
Q.3 A) Explain difference between Pre distribution modal split and post distribution modal split **(07)**
B)Develop trip production equation and calculate all the relevant statistics to check the validity of the equation using the following data **(08)**

Average house hold size	2	3	4	5	6
Average total trips made per day	5	7	8	10	10

OR

B) Enlist Different Trip generation method and explain any two **(08)**

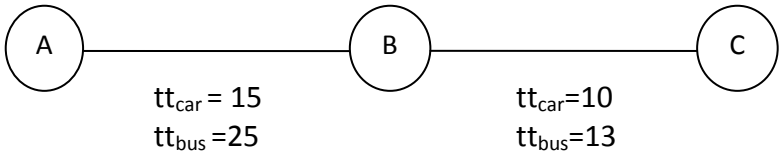
Q.4 A) The Origin and Destination matix can be used to represent the given network as given in figure below .Calculate future trip distribution in each zone by uniform growth factor method **(07)**



OR

A) Write a short note on i)Metro Rail Transit System **(07)**
ii) Bus Rapid Transit System

B) Three Zones A,B, and C are connected by two lane roads as shown in figure below , with travel time by bus and car **(08)**



The Probability of (P_c) of choosing the car mode is found to be given by $P = 1/ (1+ e^{-U(x)})$, where $U(x)= 0.86- 0.08(tt_{car} – tt_{bus})$

The total trip exchange between zones are as follow ,Determine the 2 way volume in cars day on the road AB if the average car occupancy is 2.8

The total trip exchange between zones are as follow

From	To	Person trip per day
A	B	1200
B	A	0
A	C	500
C	A	1800
B	C	400
C	B	500