PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech.Winter2017 – 18 Examination

Semester: 1   Date: 28/12/2017
Subject Code: 03211102   Time: 2:00pm-4:30pm
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) Define the urban form and urban structure. Also explain by drawing flow diagram urbanization cycle taking place. **(05)**

B) List out the different drawbacks of transportation. Explain in brief. **(05)**

C) Explain gravity model. **(05)**

Q.2 **Answer the following questions**. (Attempt any three) (Each five mark) **(15)**

 A) What is zoning? Discuss the points to be kept in mind while doing zoning.

 B) Give the comparison between BRTS and Metro rail system.

 C) Explain a flow diagram "Transportation Planning Process" with sketch.

 D) Enlist the different methods of trip distribution methods. Explain in detail average growth factor method.

Q.3 A) What are methods of origin and destination study? Explain home interview method in detail. **(07)**

B) What is route assignment? Write the factors affecting route choice. Explain All or Nothing assignment technique. **(08)**

OR

B) A self contained city having four residential area A, B, C and D, Two industrial estates X and Y, the generation equation shows that trips from hometo work from each residential area are given below during 24 hours per day.There are 3690 jobs in X zone and 4495 jobs in Y zone. It is also known that attraction between zones is inversely proportional to square of journey times between zones. The journey time is mentioned below.

Zones	X	Y
A	14	19
B	16	11
C	9	11
D	14	21

(08)

Calculate the inter zonal trips for home to work by Gravity Model.
A = 1,000; B=2,245; C=1,750; D=3,190

Q.4 A) Describe the various types of transportation surveys to be carried out for planning process. **(07)**

OR

A) Define the following terms :-
(i) Trip (ii) Mobility (iii) Accessibility (iv)Horizon year (v)Base year (vi) Origin & destination (vii) Travel forecasting. **(07)**

B) The table shows data for vehicle trips per day, as related to income and persons in household, for on of the study area. Develop the two linear regression equations for trip generation.

Income (Thousands of Units)	Persons in house hold	Trips per day
48	3	2
98	5	4
140	7	6
190	6	4
240	9	5

(08)