C. U. SHAH UNIVERSITY
Winter Examination-2022

Subject Name : Urban Transportation System

Subject Code : 4TE07UTS1   **Branch: B.Tech (Civil)**

Semester: 7   **Date: 25/11/2022**   **Time: 11:00 To 02:00**   **Marks: 70**

Instructions:
(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 Attempt all questions   **(14)**

a) What is segment?
b) Define Intrazonal trips.
c) Write the full form of BRTS.
d) What is the relation between mobility and accessibility?
e) Define travel forecasting.
f) What do you mean by Travel Time Ratio?
g) Define expressway.
h) What is zone?
i) Define degree of urbanization.
j) Give Classification of urban roads as per IRC.
k) List out O-D Survey methods.
l) Define rural area in your word.
m) What are the survey data checks?
n) What are objectives of UTS?

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions   **(14)**

a) Explain the problems in the urban transportation in the present scenario of high vehicle ownership.   (7)
b) Differentiate monorail and metrorail.   (7)

Q-3 Attempt all questions   **(14)**
a) Describe in brief corridor identification.   (7)
b) What are the factors responsible for travel demand? Explain in detail.   (7)

Q-4 Attempt all questions   **(14)**
a) What is Zoning? Discuss the points to be kept in mind while doingzoning.   (7)
b) Prepare a Questionnaire for home interview survey to collect householdsocioeconomic & travel behaviour information.   (7)

Q-5 Attempt all questions **(14)**

a) Define the terms :- (i) Trip (ii) mobility (iii)Accessibility (iv)Horizon year (v)Base year (vi) Origin & destination (vii) Travel forecasting. (7)

b) Write detail procedure for road side interview survey. (7)

Q-6 Attempt all questions **(14)**

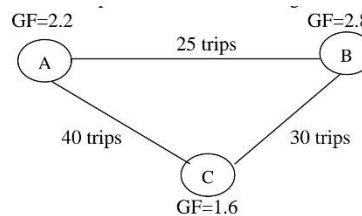a) The following information was collected during transportation survey of study Area.

Travel zone	Population (in thousands)	Total trips generated (in hundreds)
1	24	15
2	20	12
3	33	18
4	23	14
5	29	16
6	22	15
7	31	16
8	22	12

Develop the linear regression equation for estimating trip generation. (7)

b) What is transportation planning process? Draw flow chart various step. (7)

Q-7 Attempt all questions **(14)**

a) The three zones A, B, and C are shown in the figure with trip interchanges. Using Fratar method, compute the zonal interchanges for the forecast year. (7)

b) Explain corridor identification and corridor screen line analysis. (7)

Q-8 Attempt all questions **(14)**

a) Write short notes on: (i) Screen line check (ii) Diversion curve method. (7)

b) Explain with formula giving each parameters 'Gravity model' for trip distribution. (7)