C.U.SHAH UNIVERSITY
Summer Examination-2017

Subject Name: Urban Transportation System

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

Semester: 7   **Date: 31/03/2017**   **Time: 02:30 To 05:30**   **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 the following questions**	**(14)**
a)	Define urban.	(1)
b)	Define objective of UTS.	(1)
c)	Define mobility.	(1)
d)	What is zone?	(1)
e)	Define the term trip.	(1)
f)	Define cordon line.	(1)
g)	What are the methods of origin and destination?	(1)
h)	What is route assignment?	(1)
i)	Define the term terminal.	(1)
j)	What is the full form of BRTS.	(1)
k)	What do you mean by Travel Time Ratio?	(1)
l)	What is Corridor Traffic Forecasting?	(1)
m)	What is segment?	(1)
n)	Define expressway.	(1)

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

Q-2	**Attempt all questions**	**(14)**
A)	What is urbanization? State the reason of urbanization. Discuss merits and demerits of urbanization.	**(7)**
B)	Write note on: Gravity model	**(7)**
Q-3	**Attempt all questions**	**(14)**
A)	Explain aggregate and disaggregate approaches to travel demand.	**(7)**
B)	Explain average growth factor method with stepwise example.	**(7)**
Q-4	**Attempt all questions**	**(14)**
A)	Write a short note on various methods of O-D survey.	**(7)**
B)	What is Zoning? Discuss the points to be kept in mind while doing zoning.	**(7)**

Q-5   **Attempt all questions**   **(14)**
- **A)** Discuss about the factors influencing the trip production and trip attraction   **(7)**
- **B)** Explain different types of mass transit systems and their suitability with city size and shape.   **(7)**

Q-6   **Attempt all questions**   **(14)**
- **A)** Write short note on: Metro Railway System   **(7)**
- **B)** A study area is divided in to four zones 1,2,3 and 4 the present trip distribution and future trips are mentioned in matrix.   **(7)**

D� O	1	2	3	4	Total present	Future trips
1	-	50	60	30	140	280
2	40	-	70	20	130	390
3	20	60	-	40	120	300
4	50	70	30	-	150	220
Total Present	110	180	160	90	-	
Future Trips	200	500	340	150		1190

Develop future trip distribution matrix by Detroit method.

Q-7   **Attempt all questions**   **(14)**
- **A)** Explain factors affecting modal split.   **(7)**
- **B)** What is transportation planning process? Draw flow chart various step.   **(7)**

Q-8   **Attempt all questions**   **(14)**
- **A)** Write short notes on: (i) Screen line check (ii) Diversion curve method   **(7)**
- **B)** The following information was collected during survey of city having 8 zones.   **(7)**

Travel zone	Population (in thousands)	Trip (in hundreds)
1	25	11
2	27	10
3	31	17
4	32	14
5	23	13
6	31	16
7	20	09
8	25	13

Develop the linear regression equation for estimating trip generation.