C. U. SHAH UNIVERSITY
Winter Examination-2021

Subject Name : Urban Transportation System

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

Semester: 7   **Date: 17/12/2021**   **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)	Draw a sketch showing relationship between mobility and accessibility..	(1)
	b)	Write down the equation of gravity model.	(1)
	c)	What is the purpose of traffic assignment model?.	(1)
	d)	What is zone?	(1)
	e)	Define the term trip.	(1)
	f)	Define cordon line.	(1)
	g)	Define degree of urbanization.	(1)
	h)	What is route assignment?	(1)
	i)	Classification of urban roads as per IRC: ……………………	(1)
	j)	What is the full form of BRTS.	(1)
	k)	What do you mean by Travel Time Ratio?	(1)
	l)	Enlist the four steps of travel demand modeling.	(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)	Explain the procedure to conduct home interview with definition of study area and sampling technique.	**(7)**
	B)	Discuss the level of urban transport planning. Explain with sketch.	**(7)**
Q-3		**Attempt all questions**	**(14)**
	A)	Write short note on (1) all or nothing assignment (2) category analysis .	**(7)**
	B)	Explain average growth factor method with stepwise example.	**(7)**
Q-4		**Attempt all questions**	**(14)**
	A)	Explain by drawing curve accuracy is checked by screen line analysis of O&D studies data..	**(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 capacity restrain method for route assignment analysis. **(7)**
  B) Describe in brief corridor identification. **(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) What are major causes of traffic problems in metro city and suggest it's solution. **(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) Three zones with A, B and C are shown in Fig With trip interchanges. Using fartar method compute the zonal interchanges for the forecast year . **(7)**