

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VI EXAMINATION – SUMMER 2026

Subject Code:3160608

Date:05-06-2026

Subject Name:Urban Transportation Planning

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) Define following terms: (1)Base year (2) Cordon line (3)Modal Split	03
(b) What is transportation planning? Which are the objective and Goals of the transportation planning?	04
(c) Explain by drawing flow chart various steps involved in Transportation planning process.	07
Q.2 (a) What is CBD? Explain in brief with neat figure.	03
(b) What is BRTS? Write advantages and disadvantages of it	04
(c) What are the methods of origin and destination study? Explain any two in detail	07
OR	
(c) What are the factors responsible for travel demand? Explain in detail.	07
Q.3 (a) Define following terms: (1)Study area (2)zone (3) land use	03
(b) Explain concept of mobility and accessibility.	04
(c) Discuss the various growth factor methods with their advantages and disadvantages	07
OR	
Q.3 (a) Define following terms: (1)Internal trip (2) intrazonal trip (3) non- home based trip	03
(b) Discuss the effect of urbanization on transportation planning for metro city.	04
(c) Explain the various factors governing the rate of trip generation and trip attraction	07
Q.4 (a) Write the factors assignment technique?	03
(b) Describe in brief trip interchange and trip end model	04
(c) A study area has been divided into four zones 1 2 3 4 the present trip distribution matrix is given. Total future trip produced and attracted is also given.	07

Develop future trip distribution matrix using
(1)uniform growth factor(2) average growth factor

O \ D	1	2	3	4	Total present produced	Total future trip
1	-	45	55	35	135	300
2	45	-	65	25	135	375
3	20	60	-	45	125	280
4	55	70	35	-	160	225
Total present attracted trip	120	175	155	105	555	-
Total future attracted trips	210	475	335	160	-	1180

OR

- Q.4** (a) Discuss factor affecting modal split? **03**
 (b) Explain TRC trip assignment model **04**
 (c) The following data is collected for a town. **07**

zone	1	2	3	4	5	6	7
Population in zone (000)	25	19	29	24	17	18	22
Total trips generated(00)	15	12	18	13	12	14	15

Develop liner regression model for trips generated from a zone. If population in a particular zone increases to 86500, predict the expected trip generation from that zone.

- Q.5** (a) Explain private travel and paratransit. **03**
 (b) write a short note on : network identification and coding **04**
 (c) What is corridor? Explain by drawing sketch typical corridor components. **07**

OR

- Q.5** (a) Explain screen line analysis **03**
 (b) Explain various survey data checks. **04**
 (c) Classification and issues of urban goods movement. **07**
