GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VII(OLD) • EXAMINATION – WINTER 2016

Subject Code: 170604 Date: 18/11/2016 Subject Name: Urban Transportation System (Department Elective-I) 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.
- Q.1 (a) What do you mean by Transportation Planning? Give objectives and goals of it. 07
 - (b) Explain in detail with flow diagram system approach to transportation planning.
- Q.2 (a) What do you mean by zoning? Describe points to be considered while zoning. 07
 - (b) Describe urban transportation issues in detail with their remedial suggestions. 07

OR

- (b) Give stages in transportation planning. Explain each of them in detail. 07
- Q.3 (a) Give methods of O-D survey. Describe in detail one of the important method from them.
 - (b) Explain growth factor methods of trip distribution. Give limitation of them. 07

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- Q.3 (a) What do you mean by traffic assignment? Give and explain methods of it.
 - (b) A trip matrix given below shows the present flows of trips between four zones A, B, C and D. The future trips attraction and generation for each zone are also given. Distribute the trips. Use Furness method.

given. Disti	loute the tr	ips. Ose i u	THEBB HIETH	34.		
	A	В	C	D	Total	Predicted
O D					present	outgoing
					trips	trips
A		100	20	80	200	340
В	20		30	20	70	98
С	20	70		80	170	282
D	10	10	20		40	52
Total	50	180	70	180		
present						
trips						
Predicted	70	288	90	324		772
incoming						
trips						

- Q.4 (a) Explain modal split. Give factors affecting modal split. Give and explain various techniques of modal split.
 - (b) Calculate the vehicle capacity and passenger capacity for the BRT corridor having reliability 0.9. The buses are with 80 seat capacity and permissible stands are 40%. Headway = 05 Minutes.

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Q.4	(a)	Define the following term.				
		(1) Headway				
		(2) Capacity				
		(3) Frequency				
		(4) Reliability				
		(5) Vehicle capacity				
		(6) Load factor or utilization				
		(7) Passenger capacity				
	(b)	Write short note on BRT and Metro.	07			
Q.5	(a)	What do you mean by urban area? Write various trends of urbanization.	07			
		Discuss urban class groups.				
	(b)	Explain corridor identification and corridor screen line analysis.				
		OR				
Q.5 (a)	(a)	Give and discuss various urban forms.				
	(b)	What are the types of urban structure? Explain each in detail.				
	(0)	What are the types of aroun structure. Explain each in detail.				
