

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

CLASS: MUP
BRANCH: ARCHITECTURE

SEMESTER : I
SESSION : MO/18

SUBJECT: AR602 TRANSPORTATION PLANNING

TIME: 3 HRS.

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Explain the various classifications of Urban roads. [5]
Q.1(b) What is land use transportation integration? What are the various ways to linking transportation and land use? [5]

- Q.2(a) What are the three basic components of transport demand? Explain. [5]
Q.2(b) Explain the following: [5]
(i) origin and destination survey
(ii) land use inventory survey

- Q.3 The total number of trips from zone i to zone j is 4200. Currently all trips are made by car, government has two alternatives to introduce a train or a bus. The travel characteristics of respective coefficient are given as below. Decide the best alternative terms of trips carried. [10]

	t_{ij}^v	t_{ij}^{walk}	t_{ij}^h	F_{ij}	Φ_{ij}
Coefficient	0.05	0.04	0.07	0.2	0.2
Car	25	-	-	22	6
Bus	35	8	6	8	-
Train	17	14	5	6	-

- Q.4 Loss time is 2 seconds each phase given is the data of traffic flow for a four phase signal: [10]

	North	South	East	West
Flow , q	800	2400	750	600
Saturation flow, S	2400	2000	3000	3000

Find the:
Optimum cycle time
Effective green time cycle
Effective green times for the phase

- Q.5(a) What is TOD? What are the various components of TOD? [5]
Q.5(b) Explain 5 various approaches towards sustainable transportation planning. [5]

:::03/12/2018:::M