

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 2452

Roll No.

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**B. Tech.**

(SEM. VI) THEORY EXAMINATION 2011-12

**TRANSPORTATION SYSTEM AND PLANNING**

Time : 3 Hours

Total Marks : 100

- Note :—**(1) Attempt **all** questions.  
(2) All questions carry equal marks.  
(3) If required any missing data; then choose suitably.

1. Attempt any **two** parts of the following :— (10×2)
- (a) Explain the “Transportation System and Transportation Planning”. What are the duties of a transportation engineer ? How the traffic system in India does differs from that in European countries ?
- (b) Write about the various characteristics of traffic. Also give some factors which affect the vehicle performance.
- (c) What are the various problems due to traffic face by the public in metro cities ? How these problems can be minimized ?
2. Attempt any **two** parts of the following :— (10×2)
- (a) As a transportation engineer; what are the various technologies you use in transportation system ? Also describe the various types of Intermediate Public Transport modes.

- (b) Give the name of all traffic flow theories. Discuss any one theory along with its comparative merits and demerits. Also explain where this theory is applicable and which parameters can be worked out from this theory ?
- (c) Write a short note on a un-interrupted traffic flow. Also discuss the three fundamental diagrams of traffic flow with the help of their neat sketches.
3. Attempt any **two** parts of the following :— **(10×2)**
- (a) Define traffic capacity, basic capacity, possible capacity and practical capacity. Also give the differences between all of them.
- (b) What do you understand by the various trip distribution methods ? Discuss any one trip distribution method in detail.
- (c) Calculate the annual cost of a stretch of highway from the following particulars :—

Item	Total Cost Rs. in Lakhs	Estimated Life, Years	Rate of Interest %
Land	28.0	100	7
Earth work	20.0	40	9
Bridges and culverts	16.0	60	9
Pavement	30.0	15	11

The average cost of maintenance of the road is Rs. 5.0 lakhs per year.

4. Attempt any **two** parts of the following :— (10×2)

- (a) What are the different land use models ? Explain the importance of land use zoning in transport planning. Also describe the various factors which affect the transport land use relationship.
- (b) What do you mean by the benefit cost analysis ? Write about the benefit cost ratio method to assess the merit of a particular scheme by comparing the annual benefits with the increase in annual cost.
- (c) Why project economic evaluation is a basic requirement for any construction project ? Describe in detail any one economic evaluation method along with its merits and demerits.

5. Attempt any **two** parts of the following :— (10×2)

- (a) Write the role of parking and terminal in transportation planning management. Give the design criterion for a parking lot. Also compare the “kerb parking” and the “street parking” with the help of their merits and demerits.
- (b) Write about the several divisions for looking after the public safety in a municipal organization. Also discuss all the stages of the transportation planning process.
- (c) What do you mean by the various project facilities like pedestrian facility, street lighting, bus bays and passenger shelters ? Give the Indian Road Congress provisions for the designing of all these facilities.

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