

**B.Tech. Civil (Construction Management) /  
B.Tech. Civil (Water Resources Engineering)**

**Term-End Examination**

**December, 2013**

**ET-505 : TRANSPORTATION AND TRAFFIC  
ENGINEERING**

*Time : 3 hours*

*Maximum Marks : 70*

*Note : Attempt all questions. All questions carry equal marks.*

1. Answer any two of the following : 2x5=10

- (a) What is the influence of transportation on the settlement patterns, urbanization, growth pattern of cities, and the social development of a country ?
- (b) The total trips generated and attracted to zones A, B, C and D, in a survey area are tabulated below :

Zone	A	B	C	D
Trips generated (P)	3000	2000	4000	5000
Trips attracted (A)	5000	4000	3000	2000

The trips between zones are inversely proportional to the square of the distance between zone centroids, which is 3 km

uniformly. If the trip interchange between Zone A and B is known to be 1000, calculate the trip interchanged between zone A and C, A and D, B and D and C and D, respectively.

- (c) Discuss in detail about the transportation scenario of today in India.

2. Answer **any two** of the following : **2x5=10**

- (a) Discuss in detail about development in Highway planning in India.
- (b) Detail the various investigations for pavement design, explain how a final project report is prepared.
- (c) Draw a typical cross-section of an Urban Highway, and explain in detail its various parts.

3. Answer **any two** of the following : **2x5=10**

- (a) Discuss in detail the factors influencing the design of a pavement.
- (b) Why are joints necessary in concrete pavements ? How are the longitudinal joints designed ? Give a sketch.
- (c) Explain the procedure of analysis of stresses due to wheel loads on rigid pavements.

4. Answer **any two** of the following : **2x5=10**

- (a) What are the human factors that govern road use behaviour ? Discuss in detail.
- (b) Discuss briefly how parking surveys are conducted.
- (c) Explain the different methods, the merits and demerits of photographic techniques used in traffic surveys.

5. Answer **any two** of the following : 2x5=10

- (a) What are the advantages and disadvantages of a railway transport system ?
- (b) What is permanent way ? Giving a sketch Explain Earthwork, formation and drainage in permanenta way
- (c) Discuss briefly how track maintenance is done.

6. Answer **any two** of the following : 2x5=10

- (a) What are the advantages and disadvantages of air transport ?
- (b) Discuss in detail the components of an Airport layout.
- (c) Explain the design of flexible airport pavements by US corps of Engineers method.

7. Answer **any two** of the following : 2x5=10

- (a) What are the advantages and disadvantages of water transportation ?
  - (b) What are wet docks ? Explain these with neat sketches.
  - (c) Explain the transportation system using pipe lines ? What type of cargo is transported using this system ?
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