

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CE) (2011 Onwards) (Sem.-5)
TRANSPORTATION ENGINEERING-I
Subject Code : BTCE-504
M.Code : 70515

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. SECTION-C contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.
4. Assume any missing data.

SECTION-A**1. Answer briefly :**

- a. List the various Planning Surveys in a new Highway project.
- b. Give the classification of roads.
- c. List the basic requirements of an ideal alignment.
- d. Distinguish between Camber and Longitudinal Slope.
- e. List the various flexible pavement Failures.
- f. Why extra widening is provided on curves?
- g. What are the requirements of a subgrade?
- h. List the vehicular characteristics considered for geometric design of roads.
- i. What is space mean speed?
- j. List the various causes of Vehicular Pollution.

SECTION-B

2. Calculate the super elevation required for a concrete road 7.5m wide on a curve of 800m radius for a design speed of 50Kmph.
3. What is the significance of 30th highest hourly volume in traffic volume studies? Explain with the help of a sketch.
4. Name the Laboratory tests conducted to determine the suitability of aggregates for road construction and explain the significance of each test.
5. How are Bituminous pavements maintained?
6. Explain briefly the method of Wet Mix Mecadem Construction of Roads.

SECTION-C

7. Explain the procedure for carrying the Origin and destination studies.
8. A National Highway with a design speed of 80Kmph has a horizontal curve of radius 360m in plain Terrain. Design all the relevant Geometric features for a Two-Lane Highway.
9. Explain the method of benefit cost analysis in the case of Highways.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.