Roll No. [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Total No. of Pages : 2

Total No. of Questions : 09

B.Tech. (CE) (Sem.–5)

TRANSPORTATION ENGINEERING-I

Subject Code : CE-311

Paper ID : [A0617]

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 has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A

1. Answer briefly :
   a. List the various stages of work 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 superelevation.
   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 Roaduser characteristics.
   i. What is space mean speed ?
   j. List the various causes of road accidents.

SECTION-B

2. Draw the cross-section of a single lane road in cutting and filling with all the details.
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 Water Bound Mecadem Construction of Roads.

SECTION-C

7. A National Highway with a design speed of 100Kmph has a horizontal curve of radius 360m in plain terrain. Design all the relevant Geometric features for a Two-Lane Highway.
8. Explain the method of benefit cost analysis in the case of Highways.
9. Discuss the various systems of signals on Indian Roads..