Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   **Total No. of Pages : 02**

Total No. of Questions : 09

B.Tech.(Civil Engg.) (2012 to 2017)   (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

Q1. **Answer briefly :**

   a) Define annual average daily traffic and design hourly volume.

   b) State **any three** merits of road transportation over rail transportation.

   c) Draw the cross section of an urban road showing all geometic features on it.

   d) What are the factors affecting highway alignment.

   e) What do you mean by JRCP and CRCP *w.r.t.* rigid pavements?

   f)   What do you mean by Fatal Accident?

   g) What is time mean speed?

   h) What do you mean by PCU and why it is important for traffic volume studies?

   i) List the noise pollution standards on Indian roads.

   j) Distinguish between Camber and Superelevation.

SECTION-B

Q2.   Design the rate of superelevation for a horizontal highway curve of radius 400 m and speed 80kmph for plain terrain.

Q3.   What are the different types of signal systems? Explain **any two** systems.

Q4.   What is PIFV theory & how it is related to sight distance.

Q5.   Explain origin and Destination studies and various methods involved with it.

Q6.   How a road could be constructed in water logged area.

SECTION-C

Q7.   Discuss the various Vehicular Air pollution Mitigation measures.

Q8.   Explain **any two** traffic safety and control measures in detail. Draw neat sketches where required.

Q9.   Calculate the safe driving speed on a curve of radius 300 m and a superelevation of 0.07. Is the curve meeting the NH standard in plain terrain? If the pavement is 7 m wide how much the outer edge should be raised if superelevation is provided by raising about inner edge?

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.