

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 geometric 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.