Question Paper Code : 91182

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Seventh Semester

Civil Engineering

CE 2026/CE 701/10111 CEE 21 — TRAFFIC ENGINEERING AND MANAGEMENT

(Regulation 2008/2010)

(Common to PTCE 2026 — Traffic Engineering and Management for B.E. (Part-Time) Sixth Semester – Civil Engineering – Regulation 2009)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the role of 'Vision' as the road user characteristics in traffic studies?
2. What is transmission losses in power performance of vehicles?
3. What is the significance of 'Level of Service' concept in road service levels?
4. Define "Running speed and Journey speed" in traffic speed studies.
5. Differentiate between 'Cycle and Phase' in traffic signal design.
6. Draw any one vital traffic marking with its relevance as traffic aids.
7. Draw a typical rotary intersection and mark its salient features.
8. Draw a typical clover leaf interchanges with its salient features.
9. List out various Travel Demand Management (TDM) techniques used in common.
10. What are the applications of Intelligent Transport System (ITS) in traffic engineering?

PART B — (5 × 16 = 80 marks)

11. (a) Discuss in detail vehicle characteristics with its equations and its relevance in traffic engineering.

Or

(b) Explain in detail the characteristics of road, traffic and land use.

12. (a) Write in detail the different methods of Origin Destination (OD) studies with its significance.

Or

(b) (i) Discuss in brief the common urban traffic problems in Chennai city and suggest preventive measures towards sustainability. (8)

(ii) What are the functions of traffic engineer in general to perform traffic planning? (8)

13. (a) Write in brief various causes of road accidents in road accident studies.

Or

(b) A two-phase traffic signal is to be installed at a right angled crossing of two city streets. The site is "average" and the approaches are 15 meters wide between kerbs. The design hour traffic volumes in PCU's are given in the table 14.a.1.

Table 13.b.1 Design Hour Traffic Volume in PCU's per hour

From	N			E			S			W		
To	E	S	W	S	W	N	W	N	E	N	E	S
Flow in PCU's per hour	50	815	75	68	550	52	65	666	79	73	688	69

Design the two phase signal with its timing and phasing diagram by making suitable assumption.

14. (a) Explain in detail the design criteria to be followed as per Indian Roads Congress (IRC) standards for rotary design under Indian conditions.

Or

(b) Draw with salient features any three types of channelizing islands in intersection treatment.

15. (a) Discuss in brief the traffic regulatory or management measures in traffic Management treatment as per IRC standards with neat sketches.

Or

(b) Write in detail the methods of traffic forecasting with its relevance in traffic volume prediction.