Question Paper Code : 21218

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Seventh Semester

Civil Engineering

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

(Regulations 2008/2010)

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

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the objectives of traffic engineering.
2. How does land use influence traffic generation?
3. Define the terms basic capacity and possible capacity.
4. State the purpose of Origin and Destination survey.
5. Write any four object markings used on a road.
6. Brief on Pedestrian signal.
7. What are called conflicts at intersection?
8. Distinguish between intersections and interchanges.
9. What is meant by "Speed Change Lanes"?
10. Write the advantages of 'Intelligent Transport System".

PART B — (5 × 16 = 80 marks)

11. (a) (i) Discuss the various vehicular characteristics affecting traffic performance. (8)

(ii) Mention the various factors affecting friction or Skid resistance. (8)

Or

(b) Discuss briefly the various factors which affect the road user characteristics and their effects in traffic performance.

12. (a) Define the term Traffic volume. What are the objects of carrying out traffic volume studies?

Or

(b) Discuss briefly with neat sketches collision and condition diagrams.

13. (a) A fixed time 2-phase signal is to be provided at an intersection having a North – South and an East – West road where only straight-ahead traffic is permitted. The design hour flows from the various arms and Width of approach road for these arms are given in the following table:

	North	South	East	West
Design hour flow (q) (in PCU s/hour)	800	400	750	600
Width of approach road (m)	6.0	6.5	7.5	7.0

Calculate the optimum cycle time and green times for the minimum overall delay. The intergreen time should be the minimum necessary for the efficient operation. The time lost per phase due to starting delays can be assumed to be 2 seconds. The value of the amber period is 2 seconds. Sketch the timing diagram for the each phase.

Or

(b) (i) Explain in detail danger signs and information signs. (8)

(ii) With neat sketches show the common types of street furniture. (8)

14. (a) Traffic flow in an urban section at the intersection of two highways in the design year is given below. The highways intersect at right angles and have a carriage way width of 14m.Design the rotary intersection using PCU value of car = 1, commercial vehicle (com.v) = 2.8 and scooter (SC) = 0.75.

Approach	Left Turning			Straight Ahead			Right Turning		
	Car	Com.V	SC	Car	Com.V	SC	Car	Com.V	SC
N	200	50	100	250	40	160	150	50	80
E	175	60	80	210	60	120	150	60	120
S	245	70	100	120	50	80	160	55	80
W	210	40	120	190	45	100	180	75	100

Or

(b) With neat sketches show the movement of traffic on a full cloverleaf junction and discuss advantages and limitations.

15. (a) Explain in detail about the different types of Traffic Demand Management techniques.

Or

(b) Explain in detail about the different types of Traffic Management measures adopted by city traffic planners.
