

28.4.14 (FN)

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

**B.E / B.Tech. (Part Time) DEGREE END SEMESTER EXAMINATIONS
APRIL / MAY 2014**

**CIVIL ENGINEERING BRANCH
FIFTH SEMESTER – (R 2005 / 2009)**

PTCE 523 / PTCE 9040 – TRAFFIC ENGINEERING AND MANAGEMENT

Time: 3 Hours

Max. Marks: 100

- Instructions:**
- 1. Answer All Questions**
 - 2. All Questions Carry Equal Marks**

PART – A (10 x 2 = 20 Marks)

1. What is the relevance of PIEV theory in reaction time evaluation?
2. What are the urban classification of roads?
3. What is the significance of 'Level of Service' concept in road service levels?
4. Define "Spot speed and Running speed" in traffic speed studies.
5. Draw a typical rotary intersection and mark its salient features.
6. Differentiate between signal co-ordination and area traffic control.
7. What do you mean by the term 'Road Safety Audit' ?
8. What are the regulatory measures aimed at safety of motor-cycle riders?
9. Write any four number of disadvantages of one way street system.
10. What are the fundamental premise on which traffic management measures should be implemented? Critically comment about Indian cases.

PART – B (16 x 5 = 80 Marks)

11. Write in detail the various causes of road accidents with preventive measures.
- 12.a. Discuss in detail vehicle characteristics with its equations and its relevance in Traffic engineering.

(Or)

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

ii). With neat sketches show the rural classifications of roads as per Indian Roads Congress (IRC) standards.

13.a. Explain in short the origin –destination survey methods which are commonly used in planning of traffic facilities for any mega city like Chennai.

(Or)

13.b. Explain in brief the various 'Level of Services' as per Indian Roads Congress (IRC) Standards for arterial roads and down town streets.

14.a. 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 12 metres wide between kerbs. The design hour traffic volumes in PCU's are given in the table 14.a.1.

Table 14.a.1 Design Hour Traffic Volume in PCU's per hour

| From To | N | | | E | | | S | | | W | | |
|------------------------------|----|-----|----|----|-----|----|----|-----|----|----|-----|----|
| | E | S | W | S | W | N | W | N | E | N | E | S |
| Flow in PCU's per hour | 45 | 810 | 75 | 68 | 520 | 52 | 65 | 666 | 70 | 73 | 688 | 66 |

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

(Or)

14.b. Explain in short the regulation of Speed as per IRC Standards for both rural and urban roads.

15.a. Discuss in brief the traffic regulatory measures commonly implemented in traffic Management treatment as per IRC standards with neat sketches.

(Or)

15.b. Explain in detail any two Travel Demand Management (TDM) measures commonly used in Indian cities.
