

Roll No.

3531

**B. Tech 7th Semester (Civil) Elective-V
Examination – February, 2022**

TRAFFIC ENGINEERING

Paper : PEC-CEEL-421G

Time : Three hours]

[Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Q. 1 is *compulsory*. Students have to attempt *five* questions in total at least *one* question from each section. All questions carry equal marks.

1. (i) Define passenger car units.
- (ii) What is tidal flow operation in traffic management system ?
- (iii) Write short notes on traffic segregation methods.
- (iv) Explain the scope for traffic regulations
- (v) What are the factors on which PCU values depend ?
- (vi) Explain the various types of co-ordinated signal system.

SECTION - A

2. What are the different road user characteristics and vehicular characteristics which affect design ?
3. (a) The spot speed studies were carried out at a certain stretch of a highway and the consolidated data collected are given below. Determine:
- (i) Upper and lower speed limit values for mixed traffic.
- (ii) Speed to check geometric design elements.

Speed range (kmph)	No. of vehicles observed	Speed range kmph	No. of vehicles observed
0-10	12	50-60	265
10-20	18	60-70	120
20-30	68	70-80	35
30-40	89	80-90	45
40-50	205	90-100	10

- (b) With the help of desire line diagram, explain the concepts of Origin and Destination survey.

SECTION - B

4. What are the causes of road accidents and discuss how each of these factors leads to accident and its preventive measures ?

3531- (P-3)(Q-9)(22) (2)

5. Explain the concept of Passenger Car Unit. List the PCU values of some vehicle types used in India. Explain the factors influencing the PCU value of vehicles.

SECTION - C

6. (a) Explain the following with example :
- (i) Regulatory signs
- (ii) Warning signs
- (iii) Informatory sign
- (b) List the advantaged and disadvantages of signals.
7. (a) Intersection at grade and grade separated intersection
- (b) Channelized intersection
- (c) Unchannelized intersection

SECTION - D

8. (a) What are the different sources of noise generation by road traffic ?
- (b) What are the acceptable levels of noise ?
9. Explain the following in details :
- (a) Vehicular emission norms in India and abroad
- (b) RSA team and report
- (c) Factors affecting fuel consumption

3531- (P-3)(Q-9)(22) (3)