F – 2819

(Pages : 2)

Reg. No. : .....

Name : .....

Eighth Semester B.Tech. Degree Examination, December 2018
(2013 Scheme)
13.806.7 : TRAFFIC ENGINEERING (C)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions.

1. a) What are the various road user characteristics which affect traffic performance ?
   b) With the help of sketches the advantages of one-way streets with respect to conflict points at an intersection.
   c) Sketch and explain how street lighting is provided at a curve in a highway.
   d) What is ITS ? Explain two examples.
   e) Explain the relationship between speed, travel time, volume, density and capacity. **(5×4=20 Marks)**

PART – B

Answer **any one** question from **each** Module.

Module – I

2. a) Spot speed studies were carried out on a certain stretch of a highway with mixed traffic flow and the consolidated data are given below.

Speed range, kmph	No. of vehicles observed	Speed range kmph	No. of vehicles observed
<10	9	50 – 60	410
10 – 20	31	60 – 70	180
20 – 30	84	70 – 80	75
30 – 40	165	80 – 90	26
40 – 50	324	> 90	11

P.T.O.

Determine

i) the upper and lower speed limits for traffic regulation

ii) speed to check geometric design

iii) modal speed

iv) median speed and

v) dispersion **12**

b) What are the applications of O-D surveys ? **8**

OR

3. a) What is PCU ? What is its significance in traffic studies ? What are the factors on which PCU values depend ? **12**

b) Define the term 'parking accumulation'. How is parking demand estimated ? **8**

Module – II

4. a) Explain the various warrants for installing a traffic signal. **12**

b) What is meant by channelization ? Give examples with sketches. **8**

OR

5. a) Explain various types of traffic signals and their functions. **12**

b) Sketch any two types of interchanges. **8**

Module – III

6. Explain the three E's in the prevention of road accidents. **20**

OR

7. a) Sketch different types of parking systems. Write their relative advantages and limitations. **10**

b) Explain the applications of GIS and GPS in traffic planning. **10**

Module – IV

8. Explain the fundamental diagrams of traffic flow and their applications in traffic engineering. **20**

OR

9. Explain the terms Capacity and level of service. How are they defined as per HCM ? What are the factors affecting practical capacity ? **20**
