Total Pages: 1

Reg. No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SECOND SEMESTER (R) M.TECH DEGREE EXAMINATION, JUNE 2023

Discipline: CIVIL ENGINEERING

Course Code & Name: 222ECE057 ROAD SAFETY AND ACCIDENT INVESTIGATION

Max. Marks: 60 Duration: 2.5 Hours

PART A

Answer all questions. Each question carries 5 marks Marks

1 Describe the different traffic stream characteristics. (5)

2 What are the different traffic control devices? (5)

3 Explain what are the effects of traffic volume, pavement width and curves on accident. (5)

4 Explain Benefit / Cost analysis module. (5)

5 Differentiate crash and accident. (5)

PART B

Answer any 5 questions. Each question carries 7 marks

6 Differentiate between site level safety management and system level safety management. (7)

7 Imagine your role as road auditor. You got a responsibility to collect the data to survey a four legged intersection to improve the road safety. Prepare a survey sheet to record the data. (7)

8 Explain various vehicle design and protective devices for road safety with examples. (7)

9 Explain the advantages and disadvantages of stochastic solution method. (7)

10 Analyse the following situations and give some suggestions as solution. (7)
a. Railroad crossings accidents
b. Night time accidents

11 Two vehicles travelling in the same lane have masses 3000 kg and 2500 kg. The velocity of rear vehicles after striking the leader vehicle is 25 kmph and the velocity of leader vehicle is 56kmph. The coefficient of restitution of the two vehicle system is assumed to be 0.6. Determine the pre-collision speed of the two vehicles. (7)

12 Explain the limitations of RSAP. (7)