APJ ABDULKALAM TECHNOLOGICAL UNIVERSITY
08 PALAKKAD CLUSTER

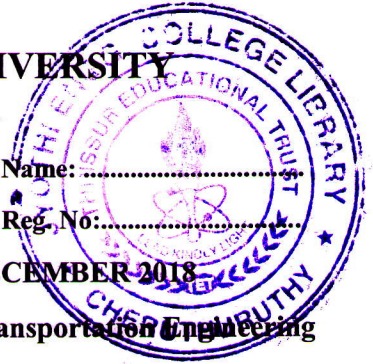Q. P.Code : TE1181   (Pages: 2)   Name:........................

Reg. No:........................

FIRST SEMESTER M.TECH. DEGREE EXAMINATION DECEMBER 2018

Branch: Civil Engineering   **Specialization: Transportation Engineering**

08 CE6215 ROAD SAFETY ENGINEERING

Time:3 hours   Max.marks: 60

Answer all six questions.

Modules 1 to 6: Part 'a' of each question is compulsory and answer either part 'b' or part 'c' of each question.

Q.no.	Module 1	Marks
1.a	What are the main sources of traffic injury data?	**3**
	Answer b or c	

b	Analyze the following situations and give some suggestions as solution
	  a. Railroad crossings accidents
	  b. Night time accidents
		6

c	Analyse the significance of human and vehicle factors involved in road accidents	**6**

Q.no.	Module 2	Marks
2.a	Differentiate crash and accident?	**3**
	Answer b or c	
b	Discuss about multi casual dynamic road system approach in road safety	**6**
c	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?	**6**

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Q.no.	Module 3	Marks
3.a	What is meant by "Black Spot"?	3

Answer b or c

b	Explain the methodology to be adopted for improving accident black spots in a road network?	6
c	What care should be taken while selecting road segments for the development of accident prediction models?	6

Q.no.	Module 4	Marks
4.a	Why road safety audit is considered as multidisciplinary	3

Answer b or c

b	Explain the methodology for road safety audit process	6
c	How the remedial measures can be identified for preventing accidents?	6

Q.no.	Module 5	Marks
5.a	What are the various impact theories related to vehicle collision?	4

Answer b or c

b	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 56 kmph. The coefficient of restitution of the two vehicle system is assumed to be 0.6. Determine the pre-collision speed of the two vehicles	8
c	Describe about intersection characteristics that affect pedestrian safety?	8

Q.no.	Module 6	Marks
6.a	Enumerate the different roadway related countermeasure?	4

Answer b or c

b	How the effect of geometric design consistency on safety can be evaluated?	8
c	Explain the effects of design elements of vertical and horizontal alignments on safety?	8