Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER III (NEW) – EXAMINATION – WINTER-2016

Subject Code: 2731307 **Date:25/10/2016**

Subject Name: Road Safety Audit

Time:02:30 pm to 05:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	What is Road Safety Audit (RSA)? What are the specific aims of RSA?	**07**
	(b)	Discuss the recent road traffic accidents scenario of India.	**07**
Q.2	**(a)**	Explain briefly different causes for road accidents.	**07**
	(b)	Define: Accident, Incident, Road crash, Fatal accident, Pedestrian, Driver, Motor vehicle.	**07**
		OR	
	(b)	Discuss about the role of 4 Es for controlling road traffic accidents.	**07**
Q.3	**(a)**	Explain with sketches condition diagram and collision diagram.	**07**
	(b)	Two vehicles A and B approaching at right angles, A from west and B from south, collide with each other. After the collision, A skids in a direction 60^0 north of west and B skids in 60^0 east of north. The initial skid distances of the A and B are 32 & 20m respectively before collision. The skid distances after collision of A and B are 12 and 30m respectively. If the weights of B and A are 6T & 4T respectively, calculate the original speeds of the vehicles. The average skid resistance of pavement is found to be 0.6.	**07**
		OR	
Q.3	**(a)**	Discuss with sketch the conflict points on three arm junction with two way traffic on all approaches. Which measures do you suggest to minimize these conflicts?	**07**
	(b)	It is observed that on an average a vehicle driver drives 6000km during the course of a year. The probability of having an accident is 120/200 million veh-km. What is the probability of a driver having at least 2 accidents during his driving career extending to 20 years?	**07**
Q.4	**(a)**	Describe with flow chart the stages involved in RSA procedure as per IRC SP: 88 – 2010.	**07**
	(b)	Discuss with sketches the road safety measures for the pedestrians.	**07**
		OR	
Q.4	**(a)**	Explain with sketches different types of speed breakers on road with their suitability.	**07**
	(b)	Describe the details included in typical accident report form and interpretation of crash data.	**07**
Q.5	**(a)**	Discuss about road safety measures to be taken during construction of road.	**07**
	(b)	Describe the effects of road accidents on health and socio-economic condition of society.	**07**
		OR	
Q.5	**(a)**	What are the impacts of vehicular noise pollution? Describe various traffic calming measures.	**07**
	(b)	What are the impacts of vehicular emissions? How will these be controlled?	**07**

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