PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech. Summer 2017 - 18 Examination

Semester: 2   **Date: 25/05/2018**
Subject Code: 03211182   **Time: 2.00 pm to 4:30 pm**
Subject Name: Road Safety Engineering   **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 A) Explain IRC accident forms.   **(05)**
　　　 B) What is collision diagram? Explain with sketch.   **(05)**
　　　 C) Enlist the human factors affecting accident and explain any one in brief.   **(05)**

Q.2 **Answer the following questions**. (Attempt any three) (Each five mark)   **(15)**
　　　 A) Explain the multi-causal dynamic systems approach to safety.
　　　 B) Discuss "crash vs accident".
　　　 C) What are the elements of a road safety plan?
　　　 D) Enlist the key elements of a road safety audit.

Q.3 A) Enlist the statistical methods for analysis of accident data and explain any one in detail.   **(07)**
　　　 B) It is observed that on an average a vehicle driver drives 5000 km during the course of a year. The
　　　 probability of having an accident is 100 per 200 million vehicle-kilometers. What is the probability of   **(08)**
　　　 a driver having at least two accidents during his driving career extending to 25 years?

<p align="center">OR</p>

　　　 B) Discuss the concept of "black spot" and how can it be identified.   **(08)**

Q.4 A) Explain the phenomenon of skidding.   **(07)**

<p align="center">OR</p>

　　　 A) What highway safety measures will be adopted during construction?   **(07)**
　　　 B) "Accidents can be prevented by better design of roads"; discuss.   **(08)**