



EASTERN UNIVERSITY, SRI LANKA
DEPARTMENT OF MATHEMATICS
FIRST EXAMINATION IN SCIENCE - 2015/2016
SECOND SEMESTER (MAY/JUNE, 2018)
CC 153 - BIO STATISTICS PRACTICAL

Answer the following question.

Time: Two hours.

1. The department of highways has observed a higher accident rate in a newly constructed high way system. Department plans to do an analysis to understand the effects of design variables, which are explained below, on the accident rate.

Description of the variables is as follows:

- AR accident rate per million miles;
- LH length of highway in miles;
- TV load volume as a percentage of truck volume;
- NS number of signals per mile;
- SL speed limit in the highway;
- WOS width (in feet) of outer shoulder on the roadway;
- NL number of lanes;
- NAP number of access points per mile;
- NFI number of freeway-type interchanges per mile;
- LW lane width(in feet);
- TR type of roadway (MC, FAI, PA, or MA).

Data collected by department from 39 sections of high way are given in text file "Accident.txt". Analyze the given data for impact of design variables on accident rate and prepare a statistical report by using the statistical software Minitab. The report should consists of sections Introduction, Composition, Preliminary analysis, Confirmatory analysis, Conclusions, and Recommendation.