



Uva Wellassa University  
Faculty of Science and Technology  
Science and Technology Degree Program



2<sup>nd</sup> Semester Examination –September/ October, 2013

SCT 103-2 Applied Statistics

Part C – Essay Questions

1. At BNS supermarket, 60% of customers pay by credit card. In a randomly selected sample of ten customers, find the probability that;
  - a. exactly two pay by credit card
  - b. more than eight pay by credit card

(15 marks)
  
2. The number of accidents per day on a given road intersection is found to have a Poisson distribution with mean 1.4. Determine the probabilities that
  - a. more than 2 accidents occur per day.
  - b. exactly 5 accidents in a week.

(15 marks)
  
3. A telephone company has launched new service in a particular region. The company has estimated that the average monthly telephone bill is Rs. 1500 with a standard deviation Rs. 225 in the region. Assume that monthly bills are normally distributed and a bill is randomly selected. Compute the following probabilities:
  - a. The bill amount is more than Rs. 1800.
  - b. The bill amount is in between Rs. 1300 and Rs. 1700.

(15 marks)