DEPARTMENT OF MATHEMATICS
SCHOOL OF ADVANCED SCIENCES
Lab Assessment - III
Fall Semester 2020 - 21

Course Code : MAT2001 **Course Name : Statistics for Engineers**

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1. Write R code to solve the following problems:

   (a) In a large consignment of electric bulbs 10 % are defective. A random sample of 20 is taken for inspection. Find the probability that
   (i) All are good bulbs,
   (ii) At most there are 3 defective bulbs,
   (iii) Exactly there are three defective bulbs.

   (b) Out of 1000 balls 50 are red and the rest white. If 60 balls are picked at random, what is the probability of picking up (i) 3 red balls (ii) not more than 3 red balls in the sample. Assume poisson distribution for the number of red balls picked up in the sample.

   (c) In a test on 2000 electric bulbs, it was found that the life of a particular make, was normally distributed with an average life of 2040 hours and S.D. of 60 hours. Estimate the number of bulbs likely to burn for
   (i) more than 2150 hours,
   (ii) less than 1950 hours and
   (iii) more than 1920 hours but less than 2160 hours.