DEPARTMENT OF MATHEMATICS
SCHOOL OF ADVANCED SCIENCES
Lab Assessment - IV
Winter Semester 2020 - 21

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

---

1. Write R code to solve the following problems:

   (a) A particular brand of tires claims that its deluxe tire averages at least 50,000 miles before it needs to be replaced.From past studies of this tire, the standard deviation is known to be 8000. A survey of owners of that tire design is conducted. From the 28 tires surveyed, the average lifespan was 46, 500 miles with a standard deviation of 9800 miles. Do the data support the claim at the 5% level?

   (b) In the large city A, 20 per cent of random sample of 900 school children had defective eye-sight. In the large city B, 15 percent of random sample of 1600 school children had the same defective. Is this difference between the two proportions significant? Obtain 95% confidence limits of the difference in the population proportions.

   (c) A cigarette manufacturing firm claims its brand A of the cigarettes outsells its brand B by 8%.if its found that 42 out sample of 200 smoker prefer brand A and 18 out of another random sample of 100 smokers prefers brand B, test whether the 8% difference is a valid cliam.