

K. J. SOMAIYA INSTITUTE OF MANAGEMENT STUDIES AND RESEARCH,
Vidyavihar, Mumbai- 400077

Program: PGDM - COMM (Batch 2017-18), Sem.-I
Subject: Business Statistics
(End Term Examination)

Maximum Marks: 50

Duration: 3 hours

Date: 04/10/2017

Instructions

1. Question 1 & 2 is compulsory.
2. Prepare a word document.

QUESTION 1 – Business School data
Marks)

(40

Nowadays, business schools are conducting entrance tests for their admission of candidates. Almost all these tests have three components. Therefore, success and failure of MBA aspirants may depend on the written score, group discussion, and interview scores. The higher is the score, the higher are the chances of the aspirants to succeed, that is, the probability of an aspirants for an admission to a business school may depend on the scores in the three components.

New age coaching institute in a metropolitan city is engaged in training the graduate aspirants for business school entrance test for last 10 years. It has faculty members who are taking different mock tests, conducting group discussions, and mock interviews to enhance the skills of the students in these areas. They have records for all these tests and collect information on their successful and unsuccessful students every year after the results are declared by the top business schools.

A sample of students from the institute has been collected relating of the following variables with the information on the success and failure.

Managerial Report:

1. Identify the Types of Variable and Scale.
2. Estimate the probability that the “Score on interview “of all the students is more than 31? What is the probability that the “Score on interview “of all the students is less than 28? And, calculate the probability the “Score on interview “of all the students is between 21 and 32?
3. Determine the sample proportion of the students who get success (status) in the entrance test. Construct a 95% and 99% confidence interval to estimate the population proportion of students who get success in the entrance test.

4. Estimate the population average written score of Students at 95% confidence interval.
5. Identify the relationship between age and written score? Develop the regression model between them?
6. New age coaching institute believe that the average score on interview is 28. To test whether the average score on interview has changes at 5% significance level.

Question 2
(10Marks)

An investor has \$800,000 to invest in the stock market. She is interested in developing a stock portfolio made up of Enbridge, Fortis, Methane and Research in Motion. However, she does not know how much to invest in each one. She wants to maximize her return, but she would also like to minimize the risk. After some consideration, she narrowed her choices down to the following three. What should she do?

- a. Equal amount in each stock.
- b. Enbridge: \$300,000, Fortis: \$200,000, Methanex: 100,000, Research in Motion: \$200,000