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

Program: *PGDM FS (Batch 2018-19), Sem.-I*
Subject: Business Statistics
(End Term Examination)

Maximum Marks: 50
Duration: 3 hours

Date: 17th Sep. 2018

Instructions :
1. **Question 1 & 2 is compulsory.**

2. **Prepare a word document.**

QUESTION 1 – Investment Commitment –

An investment refers to the commitment of funds at present, in anticipation of positive rate of returns in future. Today, the spectrum of investment in indeed wide. An investment is confronted with an array of investment avenues. A study has been undertaken to analyze the investment pattern of 100 people in short(1) , medium (2) and long (3) duration investment and whether the groups are differentiated by variables, such as income, occupation there are four categories are considered i.e. students, private sector employees, government sector employee's etc. and age.

Managerial Report:

1. What proportion of the investors considers different investment types? What is the probability that fewer than 30 investors consider short term, long term and medium term investment type? What are the probability 42 investors consider more that short term, medium term and long term investment type? What are the probability that exactly 52 investors consider short term, long term and medium term investment type?

2. Estimate the probability the age of the investors will be more than 47? What is the probability that the age of the investors is less than 25? What is probability that the age of the investors will be 35?

3. Estimate the probability the annual income of the investors will be more than 37 lakhs? What is the probability that the annual income less than 15 lakhs? What is probability that the annual income will be in between 25 lakhs to 42 lakhs?

4. Determine the sample proportion of the investors who invested in short, medium and long term fund? Construct a 95% confidence interval to estimate the population proportion of students who invested in short, medium and long term fund?

5. Estimate at 95%, 99% and 90% confidence interval that the average annual income of the investors?

Question 2   10 Marks

An investor has $900,000 to invest in the Mutual funds. She is interested in developing a stock portfolio made up of HDFC, AXIS, SBI and Reliance. 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. She has computed monthly returns for all four mutual funds during a 60-month period (Jan. 2010 to Dec. 2014). After some consideration, she narrowed her choices down to the following three. What should she do?
   a. Equal amount in each stock.
   b. HDFC: 40%, AXIS: 20%, SBI: 20%, Reliance: 20%.
   c. HDFC : 35%, AXIS : 25%, SBI : 15%, Reliance : 25%.

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