

K J SOMAIYA INSTITUTE OF MANAGEMENT STUDIES & RESEARCH

PGDM A TRIMESTER (I) ENDTERM EXAMINATION

BUSINESS STATISTICS

Date 21st September 2018

TIME DURATION: 2.30HRS

TOTAL MARKS: 50

NOTE:

1. Write detail analysis in the answer sheet for Q3 to Q5.
2. Present Q1 and Q2 in the word document.
3. Kindly make assumptions, if any.
4. Refer to the excel file for relevant data.
5. All questions carry equal marks.

Q.1 Returns on NETFLIX, SANDISK, SIRIUS XM RADIO and WYNN RESORTS are reported in the TSE Excel Sheet.

For the Following Combination of investment decide,

1. Which portfolio would a Gamble choose?
2. Which portfolio would a risk-averse investor choose?
3. Use Graphical technique to highlight the movement of stocks.

	NFLX	SNDK	SIRI	WYNN
Plan 1	25%	25%	25%	25%
Plan 2	15%	15%	15%	55%
Plan 3	20%	20%	50%	10%

Q.2. Refer to call center excel sheet and create report using visual statistics.

Q. 3.A producer of various kinds of batteries has been producing "D" size batteries with a life expectancy of 87 hours. Due to an improved production process, management believes that there has been an increase in the life expectancy of their "D" size batteries. A sample of 36 batteries showed an average life of 88.5 hours. Standard deviation of the population is 9 hours.

- a. At 99% confidence using the critical value approach, test management's belief.
- b. Estimate confidence interval for mean at 90% confidence level.

Q.4. The recent average starting salary for new college graduates in IT systems is \$47,500. Assume salaries are normally distributed with a standard deviation of \$4,500.

1. What is the probability of a new graduate receiving a salary between \$45,000 and \$50,000?
2. What percent of starting salaries are no more than \$42,250?
3. What is the cutoff for the bottom 5% of the salaries?
4. What is the cutoff for the top 3% of the salaries?

Q.5

1. The manager of a grocery store has taken a random sample of 100 customers. The average length of time it took these 100 customers to check out was 3.0 minutes. It is known that the standard deviation of the population of checkout times is one minute, therefore
 - a) The standard error of the mean equals-
 - b) With a .95 probability, the sample mean will provide a margin of error of-
 - c) The 95% confidence interval for the true average checkout time (in minutes) is-
2. Explain an empirical rule?
3. How do we detect outliers with the help of Box and whisker plot?
4. The owner of a pharmacy outlet wants to determine what proportion of people who enter his shop are his regular customers. What size sample should he take so that at 97% confidence the margin of error will not be more than 0.1?
5. What is sampling distribution?