

## **STATISTICS WORKSHEET-6**

### **Answers the Following Questions-**

Ans 1-d) All of the mentioned

Ans 2-a) Discrete

Ans 3-a) pdf

Ans 4-c) mean

Ans 5-b) standard deviation

Ans 6-b) standard deviation

Ans 7-c) 0 and 1

Ans 8-b) bootstrap

Ans 9-b) summarized

Ans 10-Histograms and box plots are very similar in that they both help to visualize and describe numeric data. Although histograms are better in determining the underlying distribution of the data, box plots allow you to compare multiple data sets better than histograms as they are less detailed and take up less space

Ans 11-prioritize objectives, examine which metric consistently predicts their achievement, and identify which activities influence predictors, in that order. And continuously re-evaluate this process to keep up with the times.

Ans 12-Steps in Testing for Statistical Significance

State the Research Hypothesis.

State the Null Hypothesis.

Select a probability of error level (alpha level)

Select and compute the test for statistical significance.

Interpret the results

Ans 13-Any type of categorical data won't have a gaussian distribution or lognormal distribution.

Exponential distributions - eg. the amount of time that a car battery lasts or the amount of time until an earthquake occurs.

Ans 14-Income is the classic example of when to use the median instead of the mean because its distribution tends to be skewed. The median indicates that half of all incomes fall below 27581, and half are above it. For these data, the mean overestimates where most household incomes fall.

Ans 15-the probability that a particular outcome is observed when the true value of the parameter is  $\theta$ , equivalent to the probability mass on  $\theta$ ; it is not a probability density over the parameter. The likelihood,  $L(\theta)$ , should not be confused with  $\pi(\theta)$ , which is the posterior probability of  $\theta$  given the data.