STATISTICS WORKSHEET-1

Q1 to Q9 have only one correct answer. Choose the correct option to answer your question.

1. Bernoulli random variables take (only) the values 1 and 0.
   a) True
   b) False

ANS- (B)

2. Which of the following theorem states that the distribution of averages of iid variables, properly normalized, becomes that of a standard normal as the sample size increases?
   a) Central Limit Theorem
   b) Central Mean Theorem
   c) Centroid Limit Theorem
   d) All of the mentioned

ANS-(A)

3. Which of the following is incorrect with respect to use of Poisson distribution?
   a) Modeling event/time data
   b) Modeling bounded count data
   c) Modeling contingency tables
   d) All of the mentioned

ANS-(B)

4. Point out the correct statement.
   a) The exponent of a normally distributed random variables follows what is called the log- normal distribution
   b) Sums of normally distributed random variables are again normally distributed even if the variables are dependent
   c) The square of a standard normal random variable follows what is called chi-squared distribution
   d) All of the mentioned

ANS-(D)

5. _____random variables are used to model rates.
   a) Empirical
   b) Binomial
   c) Poisson
   d) All of the mentioned

ANS-(C)

6. 10. Usually replacing the standard error by its estimated value does change the CLT.
   a) True
   b) False

ANS-(B)

7. 1. Which of the following testing is concerned with making decisions using data?
   a) Probability
   b) Hypothesis
   c) Causal
   d) None of the mentioned

ANS-(B)

8. 4. Normalized data are centered at_____and have units equal to standard deviations of the original data.
   a) 0
   b) 5
   c) 1
   d) 10

ANS-(A)

9. Which of the following statement is incorrect with respect to outliers?
    a) Outliers can have varying degrees of influence
    b) Outliers can be the result of spurious or real processes
    c) Outliers cannot conform to the regression relationship
    d) None of the mentioned

ANS-(C)

Q10and Q15 are subjective answer type questions, Answer them in your own words briefly.

10. What do you understand by the term Normal Distribution?

ANS- Normal distribution also known as Gaussian distribution,is a probability distribution that is symmetric about the mean, showing that the data near the mean are more frequent in occurance then data far from the mean.

11. How do you handle missing data? What imputation techniques do you recommend?

ANS- (1)-use deletion methods to eliminate missing data.
(2)-use regression analysis to systematically eliminate data.
(3)-use data imputation techniques.

12. What is A/B testing?

ANS-A/B testing is a user experience research methodology. A/B test consists of a randomised experiment with two variants, A and B. it includes application of statistical hypothesis testing or two-sample hypothesis techniques as used in field of statistics.

13. Is mean imputation of missing data acceptable practice?

ANS- Yes its true , imputing the mean preserves the mean of the observed data so if te data are missing completely at random, the estimate of the means remain unbiased.

14. What is linear statistic?

ANS- in statistics, linear regression approach for modelling the relationship between the scalar response and one or more explanatory variables.

15. what are the various statistics?

ANS- There are two types of statistics
(A)- descriptive
(B)-inferential.