Code No: 58047

DESIGN AND ANALYSIS OF EXPERIMENTS
Objective Exam

Name: _____ **Hall Ticket No.** | | | | | | A | | | | |

Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I. Choose the correct alternative:

1. It is the sum of a list of numbers, divided by the total count of numbers in the list, it can be defined as [ ]
   a) Mean b) Median c) Mode d) Standard deviation

2. Statisticians refer to this worrisome possibility—incorrectly rejecting the null hypothesis, when it is, in fact, correct [ ]
   a) Type I error b) Type II error c) Type III error d) Type IV error

3. What describes the strength and direction of the linear association between two continuous (interval or ratio) variables. [ ]
   a) Standard deviation b) Pearson's r c) Variance d) Chi square

4. It is used to assess the strength and direction of the unique linear association between multiple, continuous predictors of a continuous outcome (a criterion) and that outcome ,is called [ ]
   a) Reliability analysis b) Multiple regression analysis
   c) Moderator analysis d) Analysis of covariance

5. When two measures come from the same organism (or similar organisms), the two different measures are likely to be highly correlated with one another, is called as [ ]
   a) Moderator analysis b) Logistic regression
   c) Principal components analysis and factor analysis d) Paired-samples t test

6. A factorial experiment can be analyzed using [ ]
   a) Anova b) regression analysis c) Both a & b d) Chi square Test

7. Expected mean squares and F tests represent: [ ]
   a) The error variances b) Functions of variances of random effects
   c) Functions of sums of squares and products (quadratic forms) of fixed effects
   d) All of the above

8. In many cases we can approximate the distribution of the sample mean when n is large by a normal distribution. This result is called the [ ]
   a) Central Limit Theorem b) Poisson Distribution
   c) Normal Distribution d) All of the above

9. A sampling distribution may also be described with a parameter corresponding to a variance, . The square root of this parameter is given a special name, [ ]
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Cont.....2

10. Most ANOVA designs are *fixed effects models*, meaning that data are collected on all relevant categories of the [ ]
    a) independent variables b) Dependent variables
    c) Constant variables d) Symbols

II Fill in the Blanks:

11. Researchers begin by assuming that the _____ hypothesis is true. That is, they begin by assuming that their own predictions are wrong.

12. A _____error occurs when we fail to reject an incorrect null hypothesis.

13. A _____is used to determine the degree to which the multiple items in a scale all behave in the same fashion (i.e., are positively correlated with one another)

14. _____is conceptually identical to a standard multiple regression analysis except that the criterion variable (and sometimes one or more of the predictors) is categorical rather than continuous.

15. _____can reduce the number of experiments one has to perform by studying multiple factors simultaneously.

16. In_____, each mean square other than the MSE estimates the residual error variance plus a quadratic form of the parameter in question

17. If an interaction contains at least one random effect, the entire interaction is considered to be a _____

18. A _____is a method of statistical inference using data from a scientific study.

19. _____The probability the researcher is willing to take in falsely rejecting a true null hypothesis.

20. A _____is a set of independently, identically distributed or i.i.d. observations X1, X2, … , Xn (when sampling from a large population or with replacement)

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