KERALA AGRICULTURAL UNIVERSITY
B.Sc. (Hons.) Forestry 2016 Admission
V Semester Final Examination-January 2019

Bass .3114   Statistical Methods and Experimental Designs (2+1)   Marks: 50
Time: 2 hours

I   **Fill in the blanks:**   (10x1=10)
1   If x_1 and x_2 are two observations then geometric mean of these two will be _____
2   Midpoint of class interval is called _____
3   If all the observations are equal standard deviation = _____
4   If A and B are independent then P(A/B) = _____
5   The test used for testing two related means is _____
6   The test statistic used for testing the significance of correlation coefficient is _____
7   Probability of an event ranges in between _____ and _____
8   The design whose number of experimental units is a perfect square is _____
9   The design which makes use only two basic principles is _____
10   If the number of treatment is 't' and number of replication for each treatment is 'r' in CRD then degrees of freedom for error is _____

II   **Write Short notes on ANY FIVE of the following**   (5x2=10)
1   Geometric mean and Harmonic mean
2   Formula for Standard deviation and Coefficient of variation with explanation of the symbols used.
3   Distinguish between symmetrical and asymmetrical factorial experiments
4   Assumptions of ANOVA
5   Type I and Type II errors
6   Variable and Attributes
7   Parameter and Statistic

III   **Answer ANY FIVE of the following**   (5x4=20)
1   Desirable properties of a good measure of central tendency
2   Addition theorem and Multiplicative theorems in probability
3   Advantages and disadvantages of factorial experiments
4   Five Properties of correlation coefficient
5   Merits and demerits of census over sample survey
6   Types of classification
7   Write down the test statistic for the following situations, by setting up the hypothesis, indicating notations
   a.   To test the equality of two means, when variances are equal, in small sample case
   b.   To test the equality of two proportion in the large sample case

IV   **Answer ANY ONE of the following**   (1x10=10)
1   What is meant by Design of experiments and explain the basic principles of Experimentation.
2   Give various reasons of using sampling. Distinguish between sampling with replacement and sampling without replacement. Discuss various methods of selection of sample in simple random sampling. How simple random sampling is different from stratified random sampling?

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