KERALA AGRICULTURAL UNIVERSITY

B.Sc (Hons.) Ag. 2011Admission
VI th Semester Final Examination- July /August -2014

Cat. No: Stat.3203   Marks: 80
Title: Design & analysis of experiments (1+1)   Time: 3 hour

I. Fill up the blanks   (10 x 1 = 10)

1. The variability of two populations is tested using ---------- test.

2. The number of independent observations available in the sample for the estimation of a Parameter is called -------------------.

3. A linear combination of treatments such that the sum of the coefficients of treatments is zero is called a --------------------.

4. Two types of models in ANOVA are ------------------ and ----------------------

5. -------------- is the simplest of all experimental designs.

6. Among all designs, ----------- gives maximum error degrees of freedom.

7. Grouping of experimental units into homogeneous groups, prior to the assignment of treatments, is known as ----------------.

8. The number of degrees of freedom for error variance in a LSD with 6 treatments is ----------.

9. An experiment named based on the number of factors and the levels of each factor is known as ----------------- experiment.

10. ------------------------ design is ideal for accommodating factors which require different sizes of experimental plots in the same experiment.

II. Write short notes on ANY TEN   (10 X 3 = 30)

1. Uniformity trials and their uses

2. Border effects

3. Size and shape of experimental plots.

4. Testing of Hypothesis

5. Interpretation of ANOVA results

6. Need for designing experiments

7. Layout of RBD

8. Missing plot technique in RBD

9. Symmetrical and Asymmetrical factorial experiments

10. Main effects and Interaction effects

11. Critical Difference

12. Experiments in Farmers' Fields

III. Write short essays on ANY SIX of the following   (6 x 5 = 30)

1. Define ANOVA. What are the assumptions to use it.

2. Discuss the need for transformation of data. Explain the commonly used transformations.

3. Principles of Design of Experiments

4. What is meant by experimental error. Discuss the various methods to control it.

5. Give skeleton ANOVA Table of a CRD with 5 treatments and 4 replications each.

6. Define Latin Square. Explain the procedure of randomization of a Latin Square.

7. Distinguish between Split-Plot design and Strip-Plot design. Give the situations when these designs are used.

8. Define ANOCOVA. Explain the computational procedure and applications.

IV. Write essay on ANY ONE.   (1 X 10 = 10)

1. Write a detailed note on CRD, RBD and LSD, giving the definition- layout- analysis- merits-demerits and applications.

2. Define factorial experiment. Explain the Yates' algorithm for computation of sum of squares in a 2 x 2 factorial experiment with r replications.