

**KERALA AGRICULTURAL UNIVERSITY**  
**B.Sc. (Hons.) Agriculture – 2008 Admission**  
**II<sup>nd</sup> Semester Final Examination - September 2009**

Cat. No. : Stat 1201  
Title : Basic Statistics (1+1)

Max. marks: 80  
Time : 3 hours

**I. Fill up the blanks / State True or False / choose the correct answer(20x0.5=10)**

1. In a simple bar diagram each bar should be given different colour ( True / False )
2. Graph of cumulative frequency distribution is called \_\_\_\_\_
3. The median of the series 8 , 6 , 3, 1, 9 is \_\_\_\_\_
4. If mean = 80 and variance = 64 then Coefficient of Variation = \_\_\_\_\_ %
5. Square root of variance is known as \_\_\_\_\_
6. Which of the following is not a measure of dispersion ( variance , range, mode )
7. If mean=50, mode=48 and standard deviation=20 the coefficient of skewness= \_\_\_\_\_
8. The value of correlation coefficient ranges from \_\_\_\_\_ to \_\_\_\_\_
9. The variable to be predicted in regression analysis is called \_\_\_\_\_
10. If the regression of Y on X is given by the relation  $Y = A X + B$  then the regression coefficient is \_\_\_\_\_ ( A , B , A + B , A - B )
11. If a card is randomly drawn from a well shuffled standard pack of playing cards, the probability of getting a king is \_\_\_\_\_ (  $\frac{1}{2}$  ,  $\frac{1}{4}$  ,  $\frac{1}{13}$  , 0 )
12. In a Binomial distribution if mean is 4 units and standard deviation is 1 unit then the probability of success is \_\_\_\_\_
13. The general form of Poisson distribution is given by  $p(x) =$  \_\_\_\_\_
14. Normal distribution is a discrete distribution ( True / False )
15. List of all the elementary units in the population is called \_\_\_\_\_
16. In systematic sampling all units are selected randomly ( True / False )
17. The standard deviation of the sampling distribution is referred to as \_\_\_\_\_
18. The size of the small sample is less than \_\_\_\_\_
19. The degrees of freedom for chi-square in a  $r \times c$  contingency table is \_\_\_\_\_
20. \_\_\_\_\_ test is used for comparing the means of two correlated samples

**II. Define the following**

**(10 x 1 = 10)**

1. Median
2. Range
3. Mutually exclusive events
4. Population
5. Statistic
6. Standard error
7. Null hypothesis
8. Critical region
9. Degrees of freedom
10. Cluster sampling

**III. Write short notes on ANY TEN**

**(10 x 2 = 20)**

1. Histogram
2. Kurtosis
3. Scatter diagram
4. Rank correlation
5. Sample space and events
6. Sampling error
7. Type I and Type II errors
8. Large sample tests
9. Assumptions for chi-square test
10. ANOVA
11. Stratified sampling
12. Agricultural surveys

**IV. Write short essays on ANY FOUR**

**(4 X 5 = 20)**

1. Describe the various charts used for presenting statistical data
2. What are the advantages of sampling? Describe the principal steps in a sample survey.
3. Explain the concept of probability. State the addition and multiplication theorems of probability.
4. Define normal distribution. Explain the importance of normal distribution in statistics.
5. Define Stratified Random Sampling. How is it different from cluster sampling?
6. Describe the technique of Analysis of Variance for one-way classification

**V. Write essays on ANY TWO**

**(2 X 10 = 20)**

1. Define measure of central tendency. Explain the various measures of central tendency with their relative merits and demerits.
2. Distinguish between Correlation and Regression. State the properties of correlation and regression coefficients. Explain the procedure of fitting linear regression model to a given data.
3. Write the general procedure for statistical testing. Define 't' statistic and discuss the various tests based on 't' distribution. Mention some applications of 't' test in agriculture.