



KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Food Engg.) 2017 Admission
V Semester Final Examination-January 2020

Basc.3110

Statistics (1+1)

Marks: 50
Time: 2 hours

I Match the Following

(10x1=10)

- | | | |
|--------------------|---|-------------------------------|
| 1. Mode | a | Association between attribute |
| 2. Karl Pearson | b | Least square method |
| 3. Chi-Square | c | Random allotment of treatment |
| 4. Randomization | d | Graphical presentation |
| 5. Regression line | e | Measure of relationship |

State True or False

6. Mean is based on all observations.
7. Standard deviation is not suitable for further algebraic calculation.
8. The variance of Binomial distribution is hpq (h = no. of trial, p = probability of success, q = probability of failure).
9. Two events are said to be equally likely, if they have equal chance of occurrence.
10. Two regression coefficients have opposite signs.

II Write Short notes on ANY FIVE of the following

(5x2=10)

1. If mean of 10 items was found to be 15, on verification it was found that an item 21 was miscopied as 12. Calculate the correct mean.
2. What are the characteristics of Standard deviation?
3. Write properties of regression coefficient.
4. Define testing of hypothesis and level of significance.
5. Write the applications of t-test.
6. A bag contains 5 Black and 4 White balls, if a ball is selected at random. What is the probability that the selected ball is Black ball?
7. Define Statistical Quality Control.

III Answer ANY FIVE of the following

(5x4=20)

1. Write probability mass functions of Binomial and Poisson distributions. Give the examples of Binomial and Poisson variates.
2. Define Chi-Square Distribution. Write applications of Chi-Square test.
3. Explain the test procedure for testing the significance of mean of single sample.
4. If for $n=8$, $\bar{x}= 12$ $\bar{y}= 10$ $\sum x^2= 1250$ $\sum y^2= 875$ $\sum xy= 1035$. Calculate correlation coefficient r .
5. Show that geometric mean of regression coefficient is equal to correlation coefficient.
6. What do you understand by Analysis of Variance? Write assumptions of ANOVA.
7. Define Statistical Quality Control. Write the uses of X-bar and R charts.

IV Write an essay on ANY ONE of the following

(1x10=10)

1. Write Analysis of Variance of one - way classification.
2. Write Analysis of Variance of two - way classification.
