

B.Sc.(Ag.) Honours Semester– III Examination, 2014

Course No. : AST –211 (Elementary Statistics)

(Old Syllabus)

Signature of Centre Superintendent

Roll No.: (in figure) _____ (in words) _____
Student Index No. _____ Regn. No. _____ of _____

Time : Two hours

Full marks : 50

Questions are of value as indicated in the margin

Part-I

(Objective and Short Answer Type)

(Use only ball point pen)

Time : 30 minutes

Full marks : 20

- Note:**
1. Answer in question paper itself.
 2. Striking, rewriting and overwriting are not allowed in the objective type questions.

1. Write True (T) or False (F) in the space provided for following statements (any four):

1×4=4

- i) Primary data are original data collected for the first time by the investigator.
- ii) When we are dealing with rates, speed and prices, we use harmonic mean.
- iii) Mean deviation is minimum when deviations are taken from mean.
- iv) Correlation Coefficient lies between 0 and 1.
- v) For Binomial distribution, mean = variance.
- vi) Rejecting H_0 when it is true is called type-II error.
- vii) In large samples, $H_0: \mu_1 = \mu_2$ is tested by t-test.

2. Fill in the blanks of the following (any six):

1×6=6

- i) The Geometric mean of 2,4,8,0 is _____.
- ii) Median of the set 2,3,5,8,6,7 is _____.
- iii) Two dice are thrown. Probability of getting sum 11 is _____.
- iv) The mean and variance of a series are 30 and 36 respectively, then the coefficient of variation is _____.
- v) Two events A and B are independent if _____.
- vi) If X and Y vary in the same direction, the correlation coefficient is _____.
- vii) The probability of type II error is denoted by _____.
- viii) Student's t-test is valid in case the variable (x) follows a _____ distribution.
- ix) The significance of difference between two paired sample means is tested by _____ test.

3. Answer in brief about any five of the following questions:

2×5=10

- i) Classification of data

(ii) Measures of Dispersion

(iii) Kurtosis

(iv) Poisson distribution

(v) Null hypothesis and alternate hypothesis

(vi) Level of significance

(vii) Multiplication law of Probability

(viii) Parameter

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Part–II

(Descriptive Type)

Time : 1.5 Hours

Full marks : 30

Questions are of value as indicated in the margin.

Answer **any three** questions .

4. Give a brief note on measures of central tendency. Give the merits and demerits of different measure of central tendency. 10
5. State and prove addition law of probability for two events. Find the probability when a card is drawn from a pack of cards, that the card is either a heart or a king. 10
6. Define correlation. Distinguish between positive and negative correlation giving real-life examples. Write the properties of correlation coefficient? 10
7. What do you understand by skewness? How is it measured ? Distinguish clearly, by giving figures, between positive and negative skewness. 10
8. Define binomial distribution and poisson distribution. State the important properties of binomial distribution. 10
9. Define Chi-square.
The following table gives classification of 100 workers according to sex and the nature of work.
Test whether the nature of works is independent of the sex of the worker.

	Skilled	Unskilled
Males	40	20
Females	10	30

(Give $X^2_{0.05}$ for 1 d.f. = 3.84)

10