

B.Sc. (Ag.) Honours Semester-V Examination, 2014

Course No: AST-311 (Statistics)

(New Syllabus)

Signature of Centre Superintendent

Roll No. : (in figure) _____ (in words) _____

Student Index No. _____ Regn. No. _____ of _____

Time : Two Hours

Questions are of value as indicated in the margin

Full marks : 40

Part - I

(Objective and Short Answer Type)

(Use only ball point pen)

Time : 20 minutes

Full marks : 10

Note: 1. Answer in question paper itself.

2. Striking, rewriting or overwriting are not allowed in the objective type questions.

1. Fill up the blanks with most appropriate words.

1×8=8

- (a) Geometric mean of 2, 3, 0, 4 is _____.
- (b) If median = 20 and mean = 16, then mode will be _____.
- (c) The measure of skewness based on quartiles is given by _____.
- (d) Mean of a Binomial distribution with parameter 'n' and 'p' is _____.
- (e) If $\sum d^2$ is zero, then spearman's rank correlation coefficient will be _____.
- (f) For a measokurtic distribution, the coefficient of kurtosis β_2 will be _____.
- (g) Write the linear model for completely randomized design _____.
- (h) While using the variance ratio test, a student noted the value of F from the table for (9, 11) degree of freedom. The number of observation in sample having greater variance must be _____.

2. Match the following by choosing the answer from the code given below :

4.5×4=2

- | | | |
|-----------------------------|----------------------------|-----|
| i) Q_2 | A. Measure of kurtosis | () |
| ii) b_{xy} | B. γ^2_{xy} | () |
| iii) $b_{xy} \times b_{yx}$ | C. Median | () |
| iv) β_2 | D. Regression co-efficient | () |

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Part - II

(Descriptive Type)

Time : 100 Minutes

Full marks : 30

Questions are of value as indicated in the margin

Answer any three questions :

3. (a) Classify the following characters as attributes, discrete variable or continuous variable.
- (i) Number of students in class. 4
 - (ii) Time spent in previous month browsing internet.
 - (iii) Brand of coffee
 - (iv) Sex of fish
- (b) Draw Histogram, frequency polygon & frequency curve from the following plant height (in cm.) data : 6

Classes	:	0-10	10-20	20-30	30-40	40-50
Frequency	:	3	5	10	7	4

4. (a) If $P(A) = \frac{1}{3}$, $P(B) = \frac{1}{4}$, $P(A \cup B) = \frac{1}{2}$ Find $P(A/B)$, $P(B/A)$, $P(A/\bar{B})$,

$$P(B/\bar{A}), P(\bar{A}/\bar{B}), P(\bar{A} \cup \bar{B}), P(\bar{A} \cap \bar{B})$$

- (b) Define Normal distribution with their properties. 7

5. Describe the testing procedure for testing the difference between population mean of two independent normal population under small sample and large sample. 5+5=10

or

Explain the purpose of frequency chi-square test. In which situation we use yate's continuity correction in frequency chi-square test? Do these figures support the hypothesis that intelligent father has intelligent sons? 6+4=10

[Given 5% value of chi-square for one degree of freedom is 3.841]

	Intelligent Sons	Dull Sons
Intelligent father	24	12
Dull father	32	32

6. Describe the completely randomized design for unequal of replication with suitable example. Write advantages, disadvantages and application of completely randomized design. 4+6=10
7. Write short notes as **any two** of the following : 5×2=10
- (i) Relative measures of dispersion
 - (ii) Skewness and its measures
 - (iii) Simple and composite hypothesis