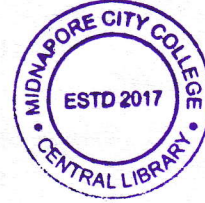# 2022

B. Sc. (Honours) in AGRICULTURE

3rd Semester Examination

Statistical Methods

PAuER — AGS-308

Full Marks : 50

Time : 2 hours

The figures in the right-hand margin indicate marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

Illustrate the answers wherever necessary.

Answer from **all** the Groups as directed.

GROUP—A

1. Answer *any* **five** questions :   2×5=10

    (a) Define statistics. Give the uses of statistics
        in agricultural sciences.

(b) Differentiate between classification and tabulation.

(c) What do you understand by sample and census?

(d) What do you mean by degrees of freedom?

(e) Write down the characteristics of a good measures of dispersion.

(f) How do you calculate the median value for odd or even numbers ungrouped data?

(g) How are diagrams useful in representing statistical data?

(h) Briefly explain relative frequency and cumulative frequency.

GROUP—B

2. Answer *any* **four** questions :

(a) Briefly explain experimental unit and treatment. 2½+2½=5

(b) Discuss lottery and random table methods of sampling. 2½+2½=5

(c) Discuss non-probability sampling. Write down the advantages of stratified sampling over random sampling. 2+3=5

(d) Write down any six practical applications of sampling. 5

(e) Write down the steps involve in testing of hypothesis. 5

(f) Briefly write down the condition, properties and application of Poisson distribution. 2+1+2=5

GROUP—C

3. Answer *any* **two** questions :

(a) Define Ogives. How do you draw less than and more than Ogives? Draw a histogram and frequency polygon for the following data : 2+2+6=10
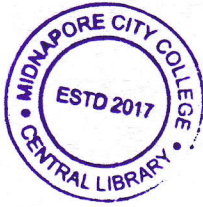
Seed yield (g)	No. of plants
2·5 – 3·5	4
3·5 – 4·5	6
4·5 – 5·5	10
5·5 – 6·5	26
6·5 – 7·5	24
7·5 – 8·5	15
8·5 – 9·5	10
9·5 – 10·5	5

(b) Define diagrams. Discuss the merits and demerits of diagrams. What is the probability of getting 53 Sundays when a leap year selected at random?

$$1+(2+2)+5=10$$

(c) Write short notes on the following :

$$2×5=10$$

    (i) Mean

    (ii) Median

    (iii) Mode

    (iv) Quartile

    (v) Standard deviation

(d) What are the basic principles of design of experiment? Fill the ANOVA table of an RBD design :

$$5+5=10$$

Source of Variation	Degree of Freedom	Sum of Square	Mean Sum of Square	F value
Blocks	4	4·135		
Treatment	4	21·457	?	?
Error	?	16·380	?	
Total	24	?		

★ ★ ★