

U.G. 6th Semester Examination - 2022

Molecular Biology and Biotechnology

[HONOURS]

Discipline Specific Elective (DSE)

Course Code : MBBT-H-604-T-DSE-3

(Biostatistics)

Full Marks : 40

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.

1. Answer any **five** of the following : $2 \times 5 = 10$
- a) Differentiate Nominal data from Ordinal data.
 - b) Define the nature of secondary data.
 - c) What is level of significance in statistical analysis?
 - d) What is the difference between Poisson and Binary distribution?
 - e) What is the difference between histogram and bar diagram?
 - f) Write down the features of between Primary.
 - g) State the importance of standard error.
 - h) Define the importance of Kurtosis in graphical representation.

2. Answer any **two**: $5 \times 2 = 10$
- a) What is frequency distribution and its importance? What is sampling? $4 + 1$
 - b) What is the difference between discrete and continuous data? What is Ratio data and its importance? $2 + 3$
 - c) What is regression analysis? Explain the merits of regression analysis. 5
 - d) What are Null and Alternative hypothesis - explain with examples. What is Multi modal frequency distribution? $3 + 2$
3. Answer any **two** : $10 \times 2 = 20$
- a) From the field seeds of sesame are given to test close fitness as : 21 Black and 24 Brown seeds. Comment on the nature of inheritance of seed coat color. 10
 - b) A tall homozygous Jute plant (AA) with yellow pods(BB) was crossed with a dwarf(aa) plant with green pods(bb). After selfing between F₁ the F₂ developed as : Tall Yellow - 118; Tall Green - 10; Dwarf yellow - 9; Dwarf green - 22. Comment on the assortment of A and B genes. 10

[Turn Over]

- c) Fish yield (kg) of a fish population (Before treatment with fish feed -A and after -B) of Rohu has been given

A - 1.8 , 1.9, 2.0, 2.1, 2.2, 2.3, 2.4 2.5, 2.6, 2.6

B -2.3, 2.4, 2.5, 2.5, 2.7, 2.8, 2.9, 3.0, 3.1, 3.2

Test whether mean seed yield of two types is significant or not. 10

- d) Four rice varieties (P,Q,R,S) grown in 04 replications and their yield/plot assessed in gm as:

A- 6,7,5,7. B- 4,3,3,4 C- 8,9,11,12 and D-8, 10,9,7. Do you consider that the mean yield of varieties differ themselves? 10
