18MBU27A

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(Sixth Semester)

Branch – **MICROBIOLOGY**

DISCIPLINE SPECIFIC ELECTIVE- II: BIOSTATISTICS AND RESEARCH METHODOLOGY

Time: Three hours Maximum: 50 marks

SECTION – A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (5×1=5)

1. Who is the father of Biostatistics?
   a. John Tukey b. P Charles Sanders
   c. Francis Galton d. Jake Porwey
2. One of the below is called a positional average
   a. Arithmetic mean b. Median
   c. Standard deviation d. Geometric mean
3. Value of correlation coefficient lies between
   a. 0 and 1 b. -1 and 0
   c. 0 and 2 d. -1 and 1
4. The original hypothesis is known as
   a. Alternate hypothesis b. Null hypothesis
   c. Simple hypothesis d. Associative hypothesis
5. Percentage of plagiarism allowed by UGC according to the latest rules and regulation is
   a. 5% b. 10% c. 15% d. 20%

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6. a. What are the Functions of Statistics?
   (OR)
   b. Describe various types of classification
7. a. Define Median? Write any two merits of Median.
   (OR)
   b. Calculate the arithmetic mean of the following data

x	4	8	12	16	20
f	6	12	18	15	9

8. a. Difference between correlation and regression.
   (OR)
   b. Explain about Linear regression.
9. a. Describe Level of Significance.
   (OR)
   b. What is Chi square test and write its formula.
10. a. List out structural content of a research project.
    (OR)
    b. Narrate various sources of data.

Cont...

SECTION -C (30 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11. a. Explain various kinds of biological data.

(OR)

b. Describe diagrammatic representation of data with neat illustration.

12. a. Explain the measures of central tendency with suitable example.

(OR)

b. Compute the standard deviation from the following data

Class intervals	0-10	10-20	20-30	30-40	40-50
Frequency	1	2	3	4	5

13. a. What is correlation? Explain its types in detail.

(OR)

b. Calculate the Karl Pearson's coefficient from the following data

X	10	11	12	13	14	15
f	2	4	10	8	5	1

14. a. Briefly explain about student's 't' Test.

(OR)

b. Hypothesis testing - explain in detail.

15. a. Explain data collection and processing.

(OR)

b. Elaborate various methods of presenting data.

Z-Z-Z END