

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2022
(Third Semester)

Branch – APPLIED MICROBIOLOGY

BIostatistics & RESEARCH METHODOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 O gives are also called as -----
(i) Circle diagram (ii) Angular diagram
(iii) Cumulative frequency curves (iv) Pictograms
- 2 The mode of the data set 21,22,23,23,24,25,23 is -----
(i) 21 (ii) 22 (iii) 23 (iv) 24
- 3 Correlation coefficient is a number between -----
(i) +1 and +2 (ii) 0 and +1 (iii) -1 and 0 (iv) -1 and +1
- 4 What is the mean of a chi square distribution with 6 degrees of freedom?
(i) 4 (ii) 12 (iii) 6 (iv) 8
- 5 Article published in research journal are -----
(i) Reference sources (ii) Secondary sources
(iii) Primary sources (iv) Tertiary sources

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 (a) Define biostatistics and explain the kinds of biological data.
OR
(b) Explain the methods to calculate survival times.
- 7 (a) Locate median from the following.

Length of leaves	5	5.5	6	6.5	7	7.5	8
Frequency	10	16	28	15	30	40	34

OR

- (b) What do you understand by central tendency? What are the merits and demerits of Arithmetic mean?
- 8 (a) What is ANOVA? Explain the basic principle of ANOVA.
OR
(b) A drug given to each of the 12 persons resulted in the following changes in the blood pressure from normal -3,2,8,-1,3,0,7,-2,1,5,0,4. Calculate by students T test whether changes is significant or not?
- 9 (a) Briefly discuss on the types of theoretical distribution.
OR
(b) The probability that a boy will get a scholarship is 0.90 and a girl will is 0.80. What is the probability that atleast one of them to get a scholarship?

Cont...

- 10 (a) Outline the steps involved in a research process.
OR
(b) Write short notes on ISSN and ISBN , Plagiarism.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 (a) How are statistical data collected? Explain the methods of data collection.
OR
(b) Describe the methods for testing the prevalence and incidence of morbidity Measurement.
- 12 (a) What is correlation? What are the methods of studying correlation?
OR
(b) Give an account on students T test.
- 13 (a) Explain in detail about Chi square test.
OR
(b) What are the different types of graphical representation of data? Explain it.
- 14 (a) Given below are the heights of individuals each from 2 different populations. Apply student T test and whether the heights of the individuals from these 2 populations are significantly different from each other keeping the level of significance $P=0.05$ (T.V=1.734)

Population 1	150	154	160	168	166	160	156	160	164
Population 2	166	160	158	172	174	180	176	160	158

OR

- (b) The following table illustrates the sample psychological health rating of corporate executives in the field of banking, manufacturing, retailing.

Banking	14	16	18		
Manufacturing	14	13	15	22	
Retailing	18	16	19	19	20

Can we consider the psychological health of corporate executives in the given three fields to be equal at 5% level of significance. (T.V=4.26)

- 15 (a) Explain different systems of citing references with examples.
OR
(b) Explain the various components of a research report.

Z-Z-Z

END