

D 73292

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Name.....

Reg. No.....

**FIRST SEMESTER B.A./B.Sc. DEGREE EXAMINATION
NOVEMBER 2019**

(CBCSS—UG)

Microbiology

MBG 1C 02—BIostatistics—I

(2019 Admissions)

Time : Two Hours

Maximum : 60 Marks

Part A (Short Answer Type Questions)

Each question carries 2 marks.

Maximum marks that can be scored from this part is 20.

1. What are the different types of biological data ?
2. Distinguish between continuous and discrete data.
3. What is meant by population in Statistics ?
4. What is meant by parameter ?
5. What is meant by ogives ?
6. What are the measures of central tendency ?
7. State any *two* properties of arithmetic mean.
8. What is meant by random experiment ?
9. Give classical definition of probability.
10. Write the probability density function of Poisson distribution.
11. What are the mean and variance of Chi-square distribution with 2 degrees of freedom ?
12. Define F- statistic.

(20 marks)

Part B (Short Essay/Paragraph Type Questions)

Each question carries 5 marks.

Maximum marks that can be scored from this part is 30.

13. Twenty five femur length measurements (in mm. $\times 10^{-1}$) of aphid pemphigus are as follows :
3.8, 3.6, 4.3, 3.5, 4.3, 3.3, 4.3, 3.9, 4.3, 3.8, 3.9, 4.4, 3.8, 4.7, 3.6, 4.1, 4.4, 4.5, 3.6, 3.8, 4.4, 4.1,
3.6, 4.2, 3.9.

Prepare a frequency distribution for the above data.

Turn over

14. Draw histogram for the following data :

Variable	:	100 - 110	110 - 120	120 - 130	130 - 140	140 - 150	150 - 160	160 - 170
Frequency	:	11	28	36	49	33	20	8

15. For following distribution of marks of 30 students in a class, obtain the cumulative frequency distributions.

Marks	:	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50
No. of students	:	3	8	15	3	1

16. The systolic blood pressures of ten patients are given bellow. Find the mean and median blood pressure. 145, 185, 150, 145, 162, 140, 190, 175, 170, 145.
17. Find range and standard deviation for the following data. 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60.
18. The following table shows the blood group of hundred students in a college :

Blood group		Males	Females	Total
O	...	20	20	40
A	...	17	18	35
B	...	8	7	15
AB	...	5	5	10
Total	...	50	50	100

Find the probability that a randomly selected student is :

- (i) A male.
- (ii) A female with blood group A.
19. Explain t and Chi-square distributions.

(30 marks)

Part C (Essay Type Questions)

Answer any one question.

The question carries 10 marks.

Maximum marks that can be scored from this part is 10.

20. The diastolic blood pressure of 10 individuals was as follows : 83, 75, 81, 79, 71, 95, 75, 77, 84 and 90. Find mean deviation from mean, standard deviation and coefficient of variation.
21. (a) There is 80 percent chance that a problem will be solved by a Statistics student and 60 percent chance is there that the same problem will be solved by a Mathematics student. What is the probability that the problem will be solved, if both of them try independently ?
- (ii) The incidence of certain occupational disease is such that on the average 20 % of workers suffer from it. If 10 workers are selected at random, find the probability that exactly two workers suffer from the disease ?

(1 × 10 = 10 marks)