

D 52781

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Name.....

Reg. No.....

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS—UG)

Complementary Course (Microbiology)

MBG 1C 02—BIOSTATISTICS—I

(2018 Admissions)

Time : Three Hours

Maximum : 80 Marks

Use of Calculator is permitted.

Section A

Answer all questions in one word.

Each question carries ½ mark.

1. A study based on complete enumeration is known as _____.
2. Size of a shirt in a shop is a _____ scale of measurement.
3. Measure of central tendency for categorical data is _____.
4. With the help of ogive one can determine _____ measure of central tendency.
5. Algebraic sum of the deviation of the observation from their mean is _____.
6. The set of all possible simple outcomes of a random experiment is known as _____.
7. If X is a Bernoulli random variable with probability of success p , then the variance of X is _____.

Write True or False :

8. Sampling is inevitable for the blood test of a person.
9. Bar diagram is a two dimensional diagram.
10. Standard deviation is a measure of central tendency.
11. If A and B are independent events then $P(A \cup B) = P(A) + P(B) - P(A)P(B)$.
12. The mean and the variance are equal for a Poisson distribution.

(12 × ½ = 6 marks)

Turn over

Section B

Answer all questions in one sentence each.

Each question carries 2 marks.

13. Distinguish between census and sampling.
14. What is meant by bar diagram ?
15. Define classification.
16. Define Median.
17. If a sample of size 22 items has mean 15 and another sample of size 18 items has mean 20 find the combined mean.
18. Define Quartile deviation.
19. Define a random experiment.
20. What is meant by mutually exclusive event ?
21. Define Standard normal distribution.
22. Define Standard Error.

(10 × 2 = 20 marks)

Section C

Answer any six questions.

Each question carries 5 marks.

23. What is sub divided bar diagram ? Briefly explain the steps involved in constructing the sub divided bar diagram.
24. Explain with the help of example ordinal and ratio scale.
25. For the following data calculate mean :

X	:	0	1	2	3	4	5	6
f	:	15	14	18	13	5	4	1
26. Find the co-efficient of variation for the following data :

X	:	5	10	15	20	25
f	:	2	8	10	12	8
27. Distinguish between absolute measure of dispersion and relative measure of dispersion.
28. Define Mean deviation ? What are the advantages and disadvantages of Mean deviation.
29. Write a note on Binomial distribution ? Give its important properties.
30. Discuss the usefulness of Normal distribution in biological data analysis.

(6 × 5 = 30 marks)

Section D

Answer any **two** questions.

Each question carries 12 marks.

31. (a) Distinguish between random and non-random sampling.

(b) Compute median for the following data :

Class	:	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	:	8	12	20	23	18	7	2

(4 + 8 = 12 marks)

32. (a) Define addition theorem of Probability.

(b) Compute mean deviation about median for the following frequency distribution :

Size	:	5	8	13	20	25	30	40
Frequency	:	2	10	20	35	18	7	5

(3 + 9 = 12 marks)

33. (a) Give the properties of chi-square distribution.

(b) The scores of two batsmen A and B in eight innings during a certain match are follows :

Batsman A	:	10	12	80	70	60	100	0	4
Batsman B	:	8	9	7	10	5	9	10	6

Examine which of two batsmen is more consistent in scoring.

(3 + 9 = 12 marks)

[2 × 12 = 24 marks]