B-003-1191004　　　　Seat No. _____

M. Sc. (Sem. I) (CBCS) (W.E.F. 2016) Examination
March - 2021
Micro - 104
Biostatistics & Bioinformatics

Faculty Code : 003
Subject Code : 1191004

Time : **2½** Hours]　　　　　　　　　　　　[Total Marks : **70**

Instruction : Answer any Five Questions.

1 Answer the following questions :　　　　　　　　　　**14**
(1) What is Bioinformatics?
(2) Write types of measurement scales.
(3) Write merit and demerit of Geometric mean.
(4) What is descriptive statistics?
(5) What is Accession number (GenBank) ?
(6) What is Biostatistics?
(7) What is INSDC? What is their role?

2 Answer the following questions :　　　　　　　　　　**14**
(a) What is frequency distribution?
The following are the data obtained from different industry which represents the age of working persons. Explain how we can calculate frequency distribution? From given data prepare a histogram, a frequency polygon and a relative frequency distribution.

25	32	21	43	39	65
36	22	54	45	37	53
35	23	34	30	34	22
46	45	45	44	55	46
22	18	35	56	45	57

(b) Calculate mean, median, mode of following data.
Also calculate standard deviation.

Daily wage	15	20	25	30	35	40
No. of workers	4	8	15	10	8	6

3 Answer the following questions :   **14**
(1) Discuss in detail about measures of dispersion.
(2) Write a note on measures of central tendency.

4 Answer the following questions :   **14**
(1) Write a detailed note on Regression analysis.
(2) Write a note on student's t test.

5 Answer the following questions :   **14**
(1) Write a detailed note on Application of Bioinformatics.
(2) Write a note on Primary and secondary database.

6 Answer the following questions :   **14**
(1) Write a detailed note on sequence alignment.
(2) What are the methods available to predict gene?

7 Answer the following questions :   **14**
(1) Explain confidence limit and confidence interval in detail.
(2) Explain frequency distribution in detail.

8 Answer the following questions :   **14**
(1) Explain Chi square test in detail.
(2) Explain Analysis of Variance in detail.

9 Answer the following questions :   **14**
(1) Explain structure of database.
(2) What are the types of the database? Explain file formats in detail.

10 Answer the following questions :   **14**
(1) Write a note on genomics.
(2) What are the different levels of omics information?

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