G-1/153/22

Roll No. ....

I Semester Examination, January 2022

M.Sc.

BIOTECHNOLOGY

Paper III

(Computer Application and Biostatistics)

Time : 3 Hours]   [Max. Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 Sections. Section A is objective type/multiple choice questions with no internal choice. Section B is short answer type with internal choice. Section C is long answer type with internal choice.*

SECTION A   **1×8=8**

(Objective Type/Multiple Choice Questions)

Choose the correct answer :

1. Which of the following is used to hold running program instructions ?
   (a) Primary storage   (b) Internal storage
   (c) Virtual storage   (d) Miron device.

2. The binary equivalent of the decimal number 10 is :
   (a) 0010   (b) 10
   (c) 1010   (d) 010.   P.T.O.

3. Which feature is use to make selected sentence to All capital letters or All small letters :
   (a) Change letter   (b) Change sentence
   (c) Change case   (d) Change word

4. We can detect spelling and grammar errors by :
   (a) Press shift + F7   (b) Press F7
   (c) Press Alt + F7   (d) None of these.

5. In case of symmetrical distribution Mean, Median and Mode are :
   (a) Identical
   (b) Are not equal
   (c) Skewed to right side
   (d) None of the above.

6. The Mean of 40 observations was 160. If it was detected on rechecking that value 165 was wrongly copied 125 for computation of Mean. Find the correct mean :
   (a) 4   (b) 161
   (c) 165   (d) 164.

7. Regression coefficient is independent of :
   (a) Origin   (b) Scale
   (c) Both (a) & (b)   (d) Neither (a) nor (b)

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8. Analysis of variance is a statistical method of comparing the several population :

(a) Mean   (b) Variance

(c) Standard deviation (d) All of these.

SECTION B   6×4=24

(Short Answer Type Questions)

Note : Answer the following questions in **250** *words.*

Unit-I

1. Write short note on any *one* of the followings :

(a) Binary number system

(b) Auxillary storage system.

Unit-II

2. Write short note on any *one* of the followings :

(a) Power point window

(b) Loop control system.

Unit-III

3. Write Merits, Demerits and applications of Mode.

Or

Daily high blood pressure of a patient on 100 days are given below :

Or

BP (mmHg)	102	106	110	114	118	122	120
No. of days	3	9	25	35	17	10	1

Calculate the mean and standard deviation of the above data blood pressure of patient.

Unit-IV

4. Find the regression of x on y from the following data :

$\Sigma x = 24$ $\Sigma y = 44$ $\Sigma xy = 306$

$\Sigma x^2 = 164$ $\Sigma y^2 = 574$ N = 4

Find the value of x when $y = 6$.

Or

One card is drawn from a well suffled deck of 52 cards, find the probability of getting :

(a) A face card   (b) The Jack of heart

(c) A spade   (d) A king

(e) A black card   (f) A Queen of red card.

SECTION C   12×4=48

(Long Answer Type Questions)

Note : Answer the following questions in **500** *words.*

Unit-I

1. Write a note on output devices of computer.

Explain the programming in Basic.

Unit-II

2. Describe the 'C' language and its advantages.

Or

Write short notes on the following :

(a) SPSS   (b) Ms Excel.

Unit-III

3. What is Data ? Describe its types and various methods of presentation of data.

Or

(a) Write merits, demerits and applications of Median.

(b) Find the median of blood samples for triglycerides test of the following data :

Triglyceride (mg/de)	20-30	30-40	40-50	50-60	60-70
Patients	5	10	20	5	3

Unit-IV

4. (a) What are the various types of correlation ? Write the significance of correlation.

(b) Find the coefficient of correlation between X and Y series from the data given below :

X series	12	9	8	10	11	13	7
Y series	14	8	6	9	11	12	3

Or

(a) What do you mean by students t test ? Explain the assumptions for t distribution.

(b) A population of eat is known to have 160 heart beats per minute. When 13 cat were each fed on a fixed quantity of a drug and data taken on their heartbeats the mean $\bar{X}$ = 147 with standard deviation 27.6. Find if there is a change in heart beat due to drug. The Oritical value of $t_{0\ 05}$ = 1 782 at 12 d.f.

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