

(i) Printed Pages : 4 Roll No.

(ii) Questions : 9 Sub. Code :

1	0	5	5	5
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Exam. Code :

5	0	0	2
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NEP U.G. Common-Skill Enhancement Course 2nd Sem.
(2056)

BIOTECHNOLOGY

Paper : Biostatistics

Time Allowed : 3 Hours] [Maximum Marks : 45

Note :- Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each unit. Use of electronic calculator with four basic mathematical operations and up to one memory is allowed.

(Compulsory Question)

1. Answer the following:

- (i) Differentiate between variable and attribute.
- (ii). What is pie chart and how it is constructed?
- (iii) Differentiate between positive and negative correlation.
- (iv) Write the name of various measures of dispersion.
- (v) What do you mean by skewness? Mention its types.
- (vi) Discuss about the analysis of variance ANOVA. 6×1.5



UNIT-I

2. Distinguish between primary and secondary data. Give a brief account of the chief methods of collecting primary data and bring out their merits and demerits. 9
3. (a) Define the classification of data and discuss its types.
(b) Define the following:
(i) Discrete and continuous data with example,
(ii) Population and sample with example. 5,4

UNIT-II

4. Discuss various types of bar diagrams or charts with examples. 9
5. (a) Construct the histogram and frequency polygon of the following data:

Class Interval	No. of Students
10-20	7
20-30	9
30-40	13
40-50	17
50-60	11
60-70	8
70-80	5

- (b) Construct the less than ogive or cumulative frequency curve of the following frequency distribution:

Class Interval	No. of Students
10-20	7
20-30	9
30-40	13
40-50	17
50-60	11
60-70	8
70-80	5

5,4

UNIT-III

6. Define mean, median and mode with their merits and demerits. Also compare any two of them. 9
7. (a) Find the lower quartile Q_1 , upper quartile Q_3 and standard deviation of the following data:

Class	10	20	30	40	50	60	70
Frequency	4	7	10	15	8	4	2

- (b) Compute the Karl Pearson's correlation coefficient of the following data:

X	50	52	56	55	58	51	54
Y	52	49	58	53	56	57	51

4,5

UNIT-IV

8. (a) Discuss the chi-square test for goodness of fit problem.
(b) A random sample of 10 boys had the following I.Q.'s: 70, 120, 110, 101, 88, 83, 95, 98, 107, 100. Do these data support the assumption of a population mean I.Q. of 100? (Given $\alpha = 5\%$). 4,5
9. (a) Define Null and Alternative hypothesis with examples.
(b) Below are given the gain in weights (in kgs.) of pigs fed on two diets A and B.

Gain in weight

Diet A : 25, 32, 30, 34, 24, 14, 32, 24, 30, 31, 35, 25

Diet B : 44, 34, 22, 10, 47, 31, 40, 30, 32, 35, 18, 21,
35, 29, 22

Test if the two diets differ significantly as regards their effect on increase in weight (Given $\alpha = 5\%$). 3,6