

DEPARTMENT OF BIOTECHNOLOGY
SRI Y.N.COLLEGE (AUTONOMOUS), NARSAPUR

Under the jurisdiction of Adikavi Nannaya University
Accredited by NAAC at 'A' Grade with a CGPA of 3.40
Recognized by UGC as 'College with Potential for Excellence '

CERTIFICATE COURSE SYLLABUS
BIostatISTICS

Unit-1:

Introduction to Biostatistics:

Statistics: A General Account; Biostatistics: Introduction; Definition; Basic concepts of Biostatistics; population; data; sample; variable and notations used in Biostatistics

Statistical terms and symbols:

Important symbols used in Biostatistics; Exercise.

Collection and Representation of Data:

Introduction; Collection of Data; Classification of Data; tabulation of data; Primary and Secondary Data.

Unit-2:

Graphical Representation of Data(Introduction,Graph,Histogram,Frequency Polygon, Frequency Curve); Diagrammatic Representation of Data(Introduction, Line Diagram, Bar Diagram, Pie Diagram, Pictograms and cartograms); Exercise

Measure of central Tendency:

Introduction; mean; arithmetic Mean; Geometric Mean; Harmonic Mean; Median and mode.

Unit-3:

Measure of Dispersion:

Introduction; Range; Quartile Deviation; Mean Deviation; Standard Deviation; Exercise

Test of significance:

General note; Student's "t" Test; Exercise.

Chi-square Test; Introduction; Definition; Exercise.

Probability: Introduction; Definition; Types of Probability; Exercise.

Correlation: meaning of correlation: Definition; kinds of Correlation; Exercise.

BLUE PRINT

GUIDELINES TO THE PAPER SETTER

Unit no	Essay Questions	Short Answer Questions	Total
I	1 (Section-A)	2 (Section-B)	3
II	1 (Section-A)	2 (Section-B)	3
III	1 (Section-A)	4 (Section-B)	5

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CERTIFICATE COURSE (BIOSTATISTICS)
MODEL PAPER

SECTION-A

Answer any two of the following:

2X15=30M

1. Describe different methods of tabulation of data.
2. In grassland the earthworm's population was sampled from ten randomly located of 1m² area. The following table gives the number of earthworms obtained. Calculate the chi-square test.

Area	1	2	3	4	5	6	7	8	9	10
No. of earthworms/m ²	25	32	17	23	15	39	27	19	22	26

3. Calculate standard deviation for the following data which shows the length of fishes.

Length in cm.	5	6	7	8	9	10	11
No. of fishes	1	2	5	5	3	3	1

SECTION-B

Answer any Five of the following:

5X5=25M

4. Define "Biostatistics" and describe role of statistics in life science.
5. Draw the histogram, frequency polygon and frequency curve with the help of data mentioned in the following table.

Class interval	Frequency
1-10	3
11-20	14
21-30	21
31-40	25
41-50	40
51-60	40
61-70	47
71-80	50

6. Hemoglobin percentage of ten patients sufferings from AIDS was recorded as 5.2mg,5.3mg,5.6mg,5.7mg,5.4mg,5.2mg,5.3mg,5.3mg,5.4mg and 5.2mg.find out the mean Hb% of patients suffering from AIDS. calculate arithmetic mean(ungrouped data)
7. Calculate the mode from the following data.

Class interval	Frequency
30-34	3
35-39	7
40-45	5

8. The number of clusters per plant in black gram is given in frequency distribution. Calculate the range.

No of clusters	No of plants
15	6
25	10
35	12
45	15
55	11
65	7
75	4

9. A drug given to each of the 12 persons resulted in the following changes in the blood pressure from normal -3,2,8,-1,3,0,7,-2,1,5,0,4. Calculate the student "t" test.
10. Two cards are drawn from a pack of 52 cards. find the probability that both are kings
11. Define and Explain correlation with Examples.

Practical examination – 20 marks