



THE AMERICAN COLLEGE, MADURAI

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

Re-accredited (2nd Cycle) by NAAC with Grade "A", CGPA – 3.46 on a 4-point scale

Backlog Arrear Examination, March 2021

MIC 2504

BIOSTATISTICS

Time: 3 hrs

Max: 75 marks

Answer any FIVE questions (5 x 15 =75)

1. a) Explain the types of bar diagrams with suitable illustrations.
b) What is a pie chart? Draw the pie chart for the following data

Age	% COVID infected
25	5
65	20
75	10
55	15

2. Describe the various types of scales of measurement of data.
3. Certain drug was administered to 500 people out of a total of 800 included in the sample to test the efficacy against typhoid. The results are given below. Find out the effectiveness of the drug against the disease (χ^2 table value at 5% level is 3.84 at df=1)

	No. of persons affected by typhoid	No. of persons not affected by typhoid	Total
<i>No. of persons Administered</i>	200	300	500
<i>No. of persons 'not' administered</i>	280	20	300

4. Calculate Karl Pearson's correlation coefficient between basal insulin level (μ U/ml) and basal glucose (mg/100 ml) in 9 subjects.

<i>Insulin level</i>	12	10	14	11	38	9	6	41	17
<i>Glucose level</i>	98	103	101	102	108	100	101	117	99

5. Discuss the principles of scientific experiments with reference to randomization, replications and control using suitable examples.
6. Explain the types of distribution patterns of statistical data and their significances with suitable examples.

7. Calculate the mean, standard deviation and standard error for the following data.

X	2.5	3	3.5	4	4.5	5
Frequency	3	5	8	7	2	1
