Introduction to Statistical Methods

(S2-22_AIMLCZC418) – Assignment 2

AIML Section-3

Each question carries 2.5 Marks (4 x 2.5 = 10 Marks)
Duration: 26 August, 2023 - 10 September, 2023
1) Submissions are individual
2) Solve these on paper, scan, and upload
3) Plagiarism results in zero marks
4) Write your name, BITS ID and Section on each page

1. A confidence interval of 4cms for average heights of students with 99% confidence is required. The standard deviation is 8cms. What should be the sample size?

2. The following table gives the Pulsality index (PI) of 11 patients

PI During Seizure	0.45	0.54	0.48	0.62	0.48	0.60	0.45	0.46	0.35	0.40	0.44
PI After Seizure	0.60	0.65	0.63	0.78	0.63	0.80	0.69	0.62	0.68	0.50	0.57

   Test whether there is a significant change on the average in PI value after seizure as compared to during seizure. (The values of t for 10 degrees of freedom at 5% = 2.228)

3. A certain drug was administered to 450 persons out of a total of 800 persons in a certain locality to test its efficiency against typhoid. The results are given below in the table. Find out the effectiveness of the drug against the disease.

	Infection	No Infection	Total
Drug	200	300	500
No drug	250	50	300
Total	450	350	800

4. From the data given below, find out whether the means of the three samples differ significantly or not.

Sample-1	Sample-2	Sample-3
20	19	13
10	13	12
17	17	10
17	12	15
16	9	5