Introduction to Statistical Methods

(S2-22_DSECLZC418) - Assignment 2

DSE Section – 1

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. Five hundred ball bearings have a mean weight of 5.02 oz and a standard deviation of 0.30 oz. Find the probability that a random sample of 100 ball bearings chosen from this group will have a combined weight , a) between 496 and 500 oz, b) more than 510 oz.

2. A random sample of 16 values from a normal population showed a mean of 41.5 inches and the sum of squares of deviations from this mean equal to 135 square inches. Show that the assumption of a mean of 43.5 inches for the population is not reasonable. Obtain 95 percent and 99 percent confidence limits for the same.

3. Two researchers A and B adopted different techniques while rating the students level. Can you say that the techniques adopted by them are significant?

Researchers	Below average	Average	Above average	Genius	Total
A	40	33	25	2	100
B	86	60	44	10	200
Total	126	93	69	12	300

4. Fill in the missing entries of the partially completed one-way ANOVA table.

Source	Df	SS	MS = SS/df	F-statistic
Treatments	_____	2.124	0.708	0.75
Error	20	_____	_____	
Total	_____	_____		

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