BOARD

Statistics and Probability Assignment

Guidelines

i. *This Assignment is mandatory for everyone.*

ii. *There are only 3 questions and each question have assigned marks.*

iii. *If you fail to submit the assignment by deadline, there will be marks deduction according to assignment policy.*

Questions

1. The maximum weight that an elevator in an apartment complex can accommodate is 800kg. The average adult weight be about 70 kgs with a variance of 200. What is the probability that the lift safely reaches the ground when there are 10 adults in the lift?

10 points

2. The life of a 60- watt light bulb in hours is known to be normally distributed with σ = 25 hours. Create 5 different random samples of 100 bulbs each which has a mean life of x_bar ~ 1000 hours and perform one-way ANOVA with state it.

20 points

3. Fifteen trainees in a technical program are randomly assigned to three different types of instructional approaches, all of which are concerned with developing a specified level of skill in computer-assisted design. The achievement test scores at the conclusion of the instructional unit are reported in Table along with the mean performance score associated with each instructional approach. Use the analysis of variance procedure to test the null hypothesis that the three-sample means were obtained from the same population, using the 5 percent level of significance for the test.

Instrumental Method	Test Scores					Total Scores	Mean Test Scores
A1	86	79	81	70	84	400	80
A2	90	76	88	82	89	425	85
A3	82	68	73	71	81	375	75

20 points

Hint: For ANOVA, use excel for now.