Introduction to Statistical Methods
S1-23_AIMLCZC418 – Assignment 2
AIML Section - 3

Questions:

1. A company has the head office at Chennai and a branch at Coimbatore. The personnel director wanted to know if the workers at the two places would like the introduction of a new plan of work and a survey was conducted for this purpose. Out of a sample of 500 workers at Chennai, 62% favoured the new plan. At Coimbatore out of a sample of 400 workers, 41% were against the new plan. Is there any significant difference between the two groups in their attitude towards the new plan at 5% level?

2. A soap manufacturing company was distributing a particular brand of soap through a large number of retail shops. Before a heavy advertisement campaign, the mean sales per week per shop was 140 dozen. After the campaign a sample of 26 shops was taken and the mean sales was found to be 147 dozen with a standard deviation of 16 dozen. Is the advertisement effective? Take level of significance (LOS) as 5%.

3. In 120 throws of a single die, the following distribution of faces was observed.

Face	1	2	3	4	5	6
Frequency	30	25	18	10	22	15

Can you say that the die is biased? Take level of significance as 5%.

4. In a comparison of the cleaning action of four detergents, 20 pieces of white cloth were first soiled with India ink. The clothes were then washed under controlled conditions with 5 pieces washed by each of the detergents. Unfortunately, three pieces of cloth were 'lost' in the course of the experiment. Whiteness readings, made on the 17 remaining pieces of cloth are shown below:

Detergent

A	B	C	D
77	74	73	76
81	66	78	85
61	58	57	77
76		69	64
69		63	

Assuming all whiteness readings to be normally distributed with common variance, test the hypothesis of no difference between the four brands as regards mean whiteness readings after washing at 5% LOS.

--------------------ALL THE BEST -----------------------