# Formative Assessment 1

SE AIML



* Required

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Q1

Que 1: The mean breaking strength of cables supplied by a manufacturer is 1800 with standard deviation 100. By a new technique in the manufacturing process it is claimed that the breaking strength of the cable has increased. In order to claim test, a sample of 50 cables is tested. It is found that the mean breaking strength of sample is 1850. What will be the Z value?

A) 5.35 B) 35.35 C) 3.535 D) 3.98

- ○ A
- ○ B
- ◉ C
- ○ D

Clear selection

Q2

Que 2: A random sample of 900 items is found to have a mean of 65.3 cms. Can it be regarded as a sample from a large population whose mean is 66.2 cms and standard deviation is 5 cms. Find Z value.

A) 5.40 B) 4.5 C) 54.0 D) 45.0

- ◉ A
- ○ B
- ○ C
- ○ D

Clear selection

Q3

Que 3: Samples of students were drawn from two universities and from their weights in kilograms, mean and standard deviation are calculated and shown below. Make a large sample test and conclude, to test the significance of the difference between the means at 5% level of significance.

| | Mean | S.D. | Size of sample |
|---|---|---|---|
| University A | 55 | 10 | 400 |
| University B | 57 | 15 | 100 |

A) Accept $H_0$ B) Reject $H_0$ C) Both of the above D) None of the above

- (●) A
- ( ) B
- ( ) C
- ( ) D

Clear selection

Q4

Que 4: The average marks scored by 32 boys is 72 with standard deviation of 8, while that for 36 girls is 70 with standard deviation of 6. Does this data indicate that the boys performs better than girls at 5% level of significance?

A) Performance of boys and girls is same.
B) Performance of boys is superior to girls.
C) Performance of girls is superior to boys.
D) Performance of boys and girls are not related in any sense.

- ○ A
- ○ B
- ◉ C
- ○ D

Clear selection

Q5

Que 5: In a random sample of 125 cool drinkers, 68 said they prefer cold coffee to ice tea. Test the null hypothesis P = 0.5 against the alternative hypothesis P > 0.5. Conclude the result as-

A) Null Hypothesis is rejected.
B) Null hypothesis is accepted.
C) Both of the above.
D) None of the above

- ○ A
- ◉ B
- ○ C
- ○ D

Clear selection

Q6

Que 6: Among 900 people in a state 90 are found to be non-vegetarian. Construct 99% confidence interval for the true proportion.

A) (0.74 , 1.258) B) (0.074 , 0.1258) C) (0.47 , 0.215) D) (0.47 , 0.512)

- ○ A
- ◉ B
- ○ C
- ○ D

Clear selection

Q7

Que 7: Random samples of 400 men and 200 women in a locality were asked whether they would like to have a bus stop near their residence. 200 men and 40 women were in favour of the proposal. Test the significance between the differences of two proportions at 5% level of significance?

A) $Z = 81.65$ B) $Z = 65.89$ C) $Z = 7.07$ D) $Z = 3.29$

- [ ] A
- [ ] B
- [x] C
- [ ] D

Clear selection

Q8

Que 8: In an investigation on the product performance the following results are obtained:

| | No. of units inspected | No. of defectives |
|---|---|---|
| Machine 1 | 375 | 17 |
| Machine 2 | 450 | 22 |

Test whether there is any significant performance of two products at 5% level of significance.

A) Z = 2.70 B) Z = 0.72 C) Z = 0.270 D) Z = 0.07

- A
- B
- C
- D

Clear selection

Q9

Que 9: A sample of 400 items is taken from a population whose standard deviation is 10. The mean of the sample is 40. To test whether the sample has come from a population with mean 38, calculate 95% confidence limits for the population.

A) (3.9 , 4.0) B) (9.3 , 0.4) C) (4.2 , 8.4) D) (39.02 , 40.98)

- ○ A
- ○ B
- ○ C
- ◉ D

Clear selection

Q10

Que 10: If the null hypothesis represents that there is no significance difference between two populations mean and alternate hypothesis represents mean of fist population is superior to mean of second population, then tabular value of Z at 1% level of significance is

A) Z = 2.33 B) Z = 2.58 C) Z = -2.33 D) Z = 1.96

- ◉ A
- ○ B
- ○ C
- ○ D

Clear selection



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