

Course outline

How does an NPTEL online course work?

Week 0 :

Week 01

Week 02

Week 03

Week 04

Lecture 32: Hypothesis Testing

Lecture 33: Decision Rules

Lecture 34: Level of Significance

Lecture 35: P Value

Lecture 36: Power of a Test

Quiz: Week 4:Assignment 4

Feedback for Week 4

Week 05 :

Week 06

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Course Material

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Assignment Solution

Week 4:Assignment 4

The due date for submitting this assignment has passed.

Due on 2021-09-01, 23:59 IST.

As per our records you have not submitted this assignment.

- 1) If a scientist doubles the sample size of an experiment to test a hypothesis, then which of the following statements are correct?
- a. The probability of making Type – II error increases
 - b. Power of the hypothesis test increases
 - c. The probability of making Type-II error decreases
 - d. Power of the hypothesis test decreases

- ☐ a
☐ b
☐ c
☐ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

b

c

1 point

- 2) Which of the following statements are correct for a hypothesis test conducted using a 5% significance level?
- a) 2.5% of the total distribution will be in each tail rejection region for a 2-sided test
 - b) 5% of the total distribution will be in each tail rejection region for a 2-sided test
 - c) total 5% of the whole distribution must be in the rejection region
 - d) The power of the test is 5%

- ☐ a
☐ b
☐ c
☐ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

a

c

1 point

- 3) Which of the following is **TRUE** regarding p-value in a hypothesis testing?
- a. If the null hypothesis is true, p-value is the probability that the observed results are statistically significant
 - b. The probability of failing to reject the null hypothesis for a given result
 - c. The probability that the null hypothesis is true for a given result
 - d. If the null hypothesis is true, the p-value is the probability of observing results as extreme or more extreme than currently observed

- ☐ a
☐ b
☐ c
☐ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

d

1 point

- 4) What happens to the width of a confidence interval if the level of confidence is increased?
- a) Increases
 - b) Decreases
 - c) Remains same
 - d) None of the above

- ☐ a
☐ b
☐ c
☐ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

a

1 point

- 5) The level of confidence is denoted by
- a. α
 - b. β
 - c. $1 - \alpha$
 - d. $1 - \beta$

- ☐ a
☐ b
☐ c
☐ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

c

1 point

- 6) In a class test the mean test score for entire class is 70 with standard deviation equal to 10. The mean score of a random sample of 64 female students is 73. The z statistics value is
- a) 1.2
 - b) 2.4
 - c) 0.3
 - d) 1.5

- ☐ a
☐ b
☐ c
☐ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

b

1 point

- 7) A RTPCR test gives a negative test report, when the patient is actually infected with corona virus, the error is known as
- a) Type I error
 - b) Type II error
 - c) Sampling error
 - d) Standard error

- ☐ a
☐ b
☐ c
☐ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

b

1 point

- 8) A statistically significant result indicates
- a. p-value is less than the significance level
 - b. p-value is greater than the significance level
 - c. the confidence interval does not contain the null hypothesis value
 - d. the confidence interval includes the null hypothesis value

- ☐ a
☐ b
☐ c
☐ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

a

c

1 point

- 9) The Null hypothesis and alternative hypothesis are statements pertaining to
- (a) Population Parameters
 - (b) Sample Statistics
 - (c) Both of the above
 - (d) None of the above

- ☐ a
☐ b
☐ c
☐ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

a

1 point

- 10) The probability of Type – I error is known as
- a. Level of confidence
 - b. Level of significance
 - c. Power of the test
 - d. Standard error

- ☐ a
☐ b
☐ c
☐ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

b

1 point