

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

☐ Python Demo for Distributions

☐ Sampling and Sampling Distribution

☐ Distribution of Sample Means, population, and variance

☐ Confidence interval estimation: Single population - I

☐ Confidence interval estimation: Single population - II

☒ Quiz: Week 3 : Assignment 3

☐ Solution for week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

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Week 3 : Assignment 3

The due date for submitting this assignment has passed.

Due on 2023-02-15, 23:59 IST.

Assignment submitted on 2023-02-12, 12:08 IST

1) State True or False: Statement: The specific value of a random variable is called estimator

1 point

- ☐ True
☒ False

Yes, the answer is correct.

Score: 1

Accepted Answers:

False

2) If the true proportion of customers who are below 100 kg weight is 0.4, what is the probability that a sample size 100 yields a sample proportion between 0.3 to 0.4

1 point

- ☐ 0.961
☐ 0.827
☒ 0.706
☐ 0.479

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.479

3) Stratified random sampling is a method of selecting a sample in which

1 point

- ☐ the sample is first divided into strata, and then random samples are taken from each stratum
☐ various strata are selected from the sample
☒ the population is first divided into strata, and then random samples are drawn from each stratum
☐ None of these alternatives is correct.

Yes, the answer is correct.

Score: 1

Accepted Answers:

the population is first divided into strata, and then random samples are drawn from each stratum

4) The Poisson probability distribution is which of the following type?

1 point

- ☐ Continuous probability distribution
☒ Discrete probability distribution
☐ Uniform probability distribution
☐ Normal probability distribution

Yes, the answer is correct.

Score: 1

Accepted Answers:

Discrete probability distribution

5) Assuming a binomial experiment with $p = 0.5$ and a sample size of 100. The expected value of this distribution is?

1 point

- ☐ 0.50
☐ 0.30
☐ 100
☒ 50

Yes, the answer is correct.

Score: 1

Accepted Answers:

50

6) A hypergeometric probability distribution is identical to

1 point

- ☐ the Poisson probability distribution
☒ the binomial probability distribution
☐ the normal distribution
☐ None of these alternatives is correct

No, the answer is incorrect.

Score: 0

Accepted Answers:

None of these alternatives is correct

7) Why one should not go for sampling?

1 point

- ☐ Less costly to administer than a census.
☒ The person authorizing the study is comfortable with the sample.
☐ Because the research process is sometimes destructive
☐ None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

None of the above

8) A car distributor in city Y experiences on an average 2.5 car sales per day. Find the probability that on a randomly selected day, they will sell 5 car: **1 point**

- ☒ 0.0668
☐ 0.544
☐ 0.082
☐ 0.205

Yes, the answer is correct.

Score: 1

Accepted Answers:

0.0668

9) In question 8, Find the probability that on a randomly selected day, they will sell no cars: **1 point**

- ☐ 0.0668
☐ 0.544
☒ 0.082
☐ 0.205

Yes, the answer is correct.

Score: 1

Accepted Answers:

0.082

10) In question 8, Find the probability that on a randomly selected day, they will sell at most 2 cars **1 point**

- ☐ 0.0668
☒ 0.544
☐ 0.082
☐ 0.205

Yes, the answer is correct.

Score: 1

Accepted Answers:

0.544

