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SASTRA » Numerical & Statistical Analysis



Unit 4 - UNIT - IV : Statistical distributions and Test of hypothesis

Course outline

UNIT - I :
Transcendental
Polynomial &
Simultaneous
equations and
Interpolations ()

UNIT - II :
Numerical
differentiation and
Integration ()

UNIT - III :
Numerical
Solutions of ODE
()

UNIT - IV :
Statistical
distributions and
Test of hypothesis
()

- ☐ Lesson 1: Binomial distribution (week 10) (unit? unit=51&lesson=52)
- ☐ Lecture 2: Poisson distribution(week 10) (unit? unit=51&lesson=53)
- ☐ Lecture 3: Normal distribution (week 10) (unit? unit=51&lesson=54)
- ☐ Lesson 4:Fitting the distribution to the data(week 10) (unit? unit=51&lesson=55)
- ☐ Lecture 5: Correlation (week 11) (unit? unit=51&lesson=56)
- ☐ Quiz: Assessment – 10 (assessment? name=68)
- ☐ Lecture 6: Rank correlation(week 11) (unit? unit=51&lesson=57)

Assessment -- 12

The due date for submitting this assignment has passed.

Due on 2023-06-11, 23:59 IST.

As per our records you have not submitted this assignment.

- 1) A sample of population is called a small sample if the sample size n is

1 point

- ☐ less than 30
- ☐ more than 30
- ☐ equal to 30
- ☐ None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
less than 30

- 2) Type II error is

1 point

- ☐ H_0 false and reject H_0
- ☐ H_0 true and reject H_0
- ☐ H_0 false and accept H_0
- ☐ none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
 H_0 false and accept H_0

- 3) A simple random sample of size 100 has mean 15, the population variance being 25. The interval estimate of the population mean with a confidence level of 95% is _____

1 point

- ☐ (14,15)
- ☐ (12,14.5)
- ☐ (13,14)
- ☐ (14.02,15.98)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(14.02, 15.98)

- 4) Which is true?

1 point

- ☐ sampling distribution of t has less dispersion than the normal distribution
- ☐ sampling distribution of t has greater dispersion than the normal distribution
- ☐ sampling distribution of t cannot be compared with normal distribution
- ☐ none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
sampling distribution of t has greater dispersion than the normal distribution

- 5) Chi-square curve is always

1 point

- ☐ a curve
- ☐ positively skewed
- ☐ negatively skewed
- ☐ test

No, the answer is incorrect.
Score: 0

Accepted Answers:
positively skewed

- Lecture 7: Multiple correlation (week 11) (unit? unit=51&lesson=58)
- Lecture 8: Regression Equations (week 11) (unit? unit=51&lesson=59)
- Lecture 9: Regression Equations (week 11) (unit? unit=51&lesson=60)
- Quiz: Assessment – 11 (assessment? name=70)
- Lecture 10: Small samples - t-test (week 12) (unit? unit=51&lesson=61)
- Lecture 11: t-test (contd..) (week 12) (unit? unit=51&lesson=62)
- Lecture 12: F- test (week 12) (unit? unit=51&lesson=63)
- Lecture 13: Chi-square test (week 12) (unit? unit=51&lesson=64)
- Lecture 14: Chi-square test (contd..) (week 12) (unit? unit=51&lesson=65)
- Quiz: Assessment – 12 (assessment? name=72)
- Lecture 15: Large Sample - Z-test (week 13) (unit? unit=51&lesson=66)
- Lecture 16: z-test (contd..) (week 13) (unit? unit=51&lesson=67)

Unit V : Non-parametric statistical methods & Time series analysis ()

6) The correlation coefficient always lies between

- ☐ 0 and 1
- ☐ -1 and 0
- ☐ -1 and 1
- ☐ always greater than 1.

No, the answer is incorrect.
Score: 0

Accepted Answers:
-1 and 1

1 point

7) Chi-square test is a non-parametric test because _____

- ☐ Its value is not derived from the observations in a population.
- ☐ observations derived from populations.
- ☐ concerned with any population distribution and its observations.
- ☐ no idea

No, the answer is incorrect.
Score: 0

Accepted Answers:
Its value is not derived from the observations in a population.

1 point

8) If the sample size is 20, which test will you use

- ☐ small sample test
- ☐ large sample test
- ☐ neither small nor large sample test
- ☐ none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
small sample test

1 point

9) What is required to perform a Chi-square test?

- ☐ Data be measured on a nominal scale
- ☐ Each cell has an equal number of frequencies
- ☐ Data conform to a normal distribution
- ☐ All of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Data be measured on a nominal scale

1 point

10) Which is correct decision

- ☐ H0 true and accept H0
- ☐ H0 true and reject H0
- ☐ H0 false and accept H0
- ☐ none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
H0 true and accept H0

1 point

11) Which is truthful decision

- ☐ H0 false and reject H0
- ☐ H0 true and reject H0
- ☐ H0 false and accept H0
- ☐ none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
H0 false and reject H0

1 point

12) Type I error is

- ☐ H0 true and accept H0
- ☐ H0 true and reject H0
- ☐ H0 false and accept H0
- ☐ none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
H0 true and reject H0

1 point

13) In F-test the value of F must be _____

- ☐ any value
- ☐ greater than 1

1 point

- ☐ less than 1
☐ equal to 1

No, the answer is incorrect.
Score: 0

Accepted Answers:
greater than 1

14) F- test applied for _____

1 point

- ☐ two variances derived from two samples
☐ values derived from two data
☐ problem solving
☐ is a test

No, the answer is incorrect.
Score: 0

Accepted Answers:
two variances derived from two samples

15) Ten objects are chosen at random from a large population and their weights are found to be (kgs) 63, 63, 64, 65, 66, 69, 69, 70, 70, 71. Discuss the suggestion that the mean weight in the universe is 65. t at 5% is 2.262 **1 point**

- ☐ $t = 2.024$, accept H_0
☐ $t = 2.024$ reject H_0
☐ data missing
☐ no idea

No, the answer is incorrect.
Score: 0

Accepted Answers:
 $t = 2.024$, accept H_0



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