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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 -- 11

The due date for submitting this assignment has passed.

Due on 2023-06-04, 23:59 IST.

As per our records you have not submitted this assignment.

- 1) When the values of X and Y are in the opposite direction the correlation between them is called

1 point

- ☐ Positive correlation
- ☐ Negative correlation
- ☐ No correlation
- ☐ Multiple correlation

No, the answer is incorrect.
Score: 0

Accepted Answers:
Negative correlation

- 2) If the two regression coefficients are -0.6 and 0.6, then the coefficient of correlation is

1 point

- ☐ -0.36
- ☐ 0.36
- ☐ 0.6
- ☐ such case do not arise

No, the answer is incorrect.
Score: 0

Accepted Answers:
such case do not arise

- 3) The relationship between 3 or more variables is studied with the help of correlation.

1 point

- ☐ Simple.
- ☐ Multiple.
- ☐ Rank.
- ☐ partial

No, the answer is incorrect.
Score: 0

Accepted Answers:
Multiple.

- 4) The relationship between 2 variables among three variables is studied with the help of correlation. () ()

1 point

- ☐ Simple. () ()
- ☐ Multiple. () ()
- ☐ Rank. () ()
- ☐ Partial
- ☐ () ()

No, the answer is incorrect.
Score: 0

Accepted Answers:
Partial

() ()

- 5) The product of two regression coefficients is

1 point

- ☐ the value of x at the point of intersection of the lines

- ☐ 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 ()



- ☐ the value of y at the point of intersection of the lines
- ☐ square of the correlation coefficient.
- ☐ the distance of the point of intersection from the origin

No, the answer is incorrect.
Score: 0

Accepted Answers:
square of the correlation coefficient.

- 6) If both the regression coefficients are negative the correlation coefficient is
- ☐ 0
 - ☐ positive
 - ☐ negative
 - ☐ Infinite

No, the answer is incorrect.
Score: 0

Accepted Answers:
negative

1 point

- 7) The coefficient of correlation is ----- between the regression coefficients.
- ☐ Arithmetic mean
 - ☐ Geometric mean
 - ☐ Harmonic mean
 - ☐ None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Geometric mean

1 point

- 8) In the regression line of Y on X which one of the following is true
- ☐ Y is independent and X is dependent
 - ☐ X is independent and Y is dependent
 - ☐ both X and Y are dependent
 - ☐ both X and Y are independent.

No, the answer is incorrect.
Score: 0

Accepted Answers:
X is independent and Y is dependent

1 point

- 9) In the regression line of X on Y which one of the following is true
- ☐ Y is independent and X is dependent
 - ☐ X is independent and Y is dependent
 - ☐ both X and Y are dependent
 - ☐ both X and Y are independent.

No, the answer is incorrect.
Score: 0

Accepted Answers:
Y is independent and X is dependent

1 point

- 10) find the correlation coefficient
- | | | | | | | |
|---|---|---|---|----|----|----|
| x | 1 | 3 | 5 | 8 | 9 | 10 |
| y | 3 | 4 | 8 | 10 | 12 | 11 |

- ☐ -0.97
- ☐ 0.97
- ☐ 0.79
- ☐ -0.79

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.97

1 point

- 11) Correlation can be ----
- ☐ Positive linear correlation
 - ☐ Negative linear correlation
 - ☐ No correlation
 - ☐ All of the above.

No, the answer is incorrect.
Score: 0

Accepted Answers:
All of the above.

1 point

- 12) If the two regression coefficients are -0.4 and -0.9, then the coefficient of correlation is
- ☐ -0.36
 - ☐ 0.36
 - ☐ 0.6
 - ☐ -0.6

1 point

No, the answer is incorrect.

Score: 0

Accepted Answers:

-0.6

13) Obtain the rank correlation coefficient from the following data. (x, y) (68,62) (64,58) (75,68) (50,45) (64,81) (80,60) (75,68) (40,48) (55,50) (64,70) **1 point**

- ☐ 0.545
☐ 0.554
☐ 0.455
☐ -0.554

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.545

14) Obtain the equations of two lines of regression for the following data. **1 point**

X 65 66 67 67 68 69 70 72
 Y 67 68 65 68 72 72 69 71

- ☐ $y = 0.665x + 23.78, \quad x = 0.54y + 30.74$
☐ $y = 0.665x - 23.78, \quad x = 0.54y - 30.74$
☐ $y = 0.665x - 23.78, \quad x = 0.54y + 30.74$
☐ $y = 0.665x + 23.78, \quad x = 0.54y - 30.74$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$y = 0.665x + 23.78, \quad x = 0.54y + 30.74$

15) In a partially destroyed record, the following information obtained. variance of $x = 9$, regression equations $8x - 10y + 66 = 0$; $40x - 18y = 214$. find the correlation coefficient. **1 point**

- ☐ -0.6
☐ 0.6
☐ 0.66
☐ -0.66

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.6



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