

NATIONAL MANAGEMENT COLLEGE, THUDUPATHI.

REVISION TEST - 16 (25.04.22)

PAPER : 3- BUSINESS MATHEMATICS, LOGICAL REASONING AND STATISTICS

TIME :1/2 HOUR

CLASS : CA - FOUNDATION

MARKS :25 X 1 =25

CHOOSE THE BEST ANSWER

1. Two regression lines are $x + 2y - 5 = 0$ & $2x + 3Y - 8 = 0$. If variance of y is 4 then variance of x is

- a) 12 b) 16 c) $3 / 16$ d) $16 / 3$

2. For a perfectly correlated variables, $b_{xy} = -0.5$ then the value of b_{yx} is

- a) 2 b) -2 c) ± 5 d) $\pm \sqrt{2}$

3. If the plotted points in a scatter diagram are evenly distributed, then the correlation is

- (a) Zero (b) Negative (c) Positive (d) (a) or (b)

4. In calculating the Karl Pearson's coefficient of correlation it is necessary that the data should be of numerical measurements. The statement is

- (a) valid (b) not valid (c) both (d) none

5. Rank correlation coefficient lies between

- (a) 0 to 1 (b) -1 to $+1$ inclusive of these value
(c) -1 to 0 (d) both

6. Under Algebraic Method we get ———— linear equations .

- (a) one (b) two (c) three (d) none.

7. If the values of y are not affected by changes in the values of x , the variables are said to be

- (a) correlated (b) uncorrelated (c) both (d) zero

8. In case of employed persons 'Age and income' correlation is

- (a) positive (b) negative (c) zero (d) none

9. If the rank correlation coefficient between marks in management and mathematics for a group of student is 0.6 and the sum of squares of the differences in ranks is 66, what is the number of students in the group?

- (a) 10 (b) 9 (c) 8 (d) 11

10. The coefficient of correlation between x and y where

x :	64	60	67	59	69
y :	57	60	73	62	68

is

- (a) 0.655 (b) 0.68 (c) 0.73 (d) 0.758

11. Two random variables have the regression lines $3x + 2y = 26$ and $6x + y = 31$. The coefficient of correlation between x and y is :

- a) -0.25 b) 0.5 c) -0.5 d) 0.25

12. For 10 pairs of observations, number of concurrent deviations was found to be 4. What is the value of the coefficient of concurrent deviation ?

- a) $\sqrt{0.2}$ b) $1/3$ c) $-1/3$ d) $-\sqrt{0.2}$

13. The method applied for deriving regressions is known as :

- a) concurrent deviation b) product moment
b) Least squares d) normal Equation

14. The straight line graph of the linear equation $Y = a + bX$, slope is horizontal if:

- a) $b = 0$ b) $b \neq 0$ c) $b = 1$ d) $a = b$

15. In simple regression equation, the numbers of variables involved are:

- A) 0 B) 1 C) 2 D) 3

16. which of the following are types of correlation?

- a) Positive and Negative b) Simple, Partial and Multiple
c) Linear and Nonlinear d) All of the above

17. Which of the following statements is true about the correlational analysis between two sets of data?

- a) The correlational analysis between two sets of data is known as a simple correlation
b) The correlational analysis between two sets of data is known as multiple correlation
c) The correlational analysis between two sets of data is known as partial correlation
d) None of the above

18. The original hypothesis is known as _____.

- a) Alternate hypothesis b) Null hypothesis
c) Both a and b are incorrect d) Both a and b are correct

19. Which of the following techniques is an analysis of the relationship between two variables to help provide the prediction mechanism?

- a) Standard error b). Correlation
c) Regression d) None of the above

20. The value we would predict for the dependent variable when the independent variables are all equal to zero is called:

- a). Slope
- b). Sum of residual
- c) Intercept
- d). Difficult to tell

21. _____ is unit free measure

- a) correlation
- b) coefficient
- c) coefficient of correlation
- d) correlation of coefficient

22) The coefficient of correlation is significant if :

- a) $r \geq 5$ P.E
- b) $r < 6$ P.E
- c) $r \geq 6$ P.E
- d) $r = 6$ P.E

23) The covariance between two variables is

- (a) Strictly positive
- (b) Strictly negative
- (c) Always 0
- (d) Either positive or negative or zero.

24. If the coefficient of correlation between two variables is -0.9 , then the coefficient of determination is

- (a) 0.9
- (b) 0.81
- (c) 0.1
- (d) 0.19.

25. The covariance between two variables X and Y is 8.4 and their variances are 25 and 36 respectively. Calculate Karl Pearson's coefficient of correlation between them.

- (a) 0.82
- (b) 0.28
- (c) 0.01
- (d) 0.09