

TELANGANA UNIVERSITY
S.S.R. DEGREE COLLEGE, NIZAMABAD (C.C:5029)
III SEMESTER INTERNAL ASSESSMENT I EXAMINATIONS
STATISTICS QUESTION BANK

I. Choose the correct Answer

1. Who discovered the correlation concept [a]
a. Pearson b. Fisher c. Galton d. None
2. Limits of correlation coefficient [b]
a. ± 2 b. ± 1 c. ± 3 d. None
3. Total No. of class frequencies of all order [c]
a. 2^n b. 3^{n+1} c. 3^n d. 3^{n+1}
4. If $r = \underline{\hspace{2cm}}$ then it is perfect positive correlation [a]
a. +1 b. -1 c. 0 d. None
5. If $r = \underline{\hspace{2cm}}$, then it is perfect negative correlation [b]
a. +1 b. -1 c. 0 d. None
6. If $r = \underline{\hspace{2cm}}$, then uncorrelated variables [c]
a. +1 b. -1 c. 0 d. None
7. We are using rank correlation when the data is [a]
a. Qualitative b. Numerical c. Raw d. None
8. If one regression co-efficient is greater than unity, then the other must be unity [c]
a. = b. > c. < d. None
9. If $N = 100$, $(A) = 50$, $(B) = 30$ then $(\alpha) =$ [a]
a. 50 b. 60 c. 70 d. 80
10. Correlation ratio lies in b/w [b]
a. ± 1 b. 0 to 1 c. 1 to 2 d. None
11. Regression lines passes through [b]
a. (x, y) b. (\bar{x}, \bar{y}) c. (x^2, y^2) d. None
12. Regression coefficient independent of origin but [a]
a. scale b. origin c. dependent d. None
13. Regression co-efficients are independent of change of origin and scale, true or false? [b]
a. True b. False c. Both d. None
14. Correlation co-efficient is independent of change of origin and scale, true or false [a]
a. True b. False c. Both d. None
15. In scatter diagram, if the points are very dense, we should expect amount of correlation [c]
a. Poor b. Bad c. Good d. Average
16. In scatter diagram, if the points are very wide we should expect correlation [a]
a. Poor b. Bad c. Good d. Average
17. Income of father does not depends on the age of a son, it is an example of [c]
a. Positive correlation b. Negative c. Un correlation d. None
18. Bivariate means variables [b]
a. One b. Two c. Three d. None
19. Straight line equation, $y = \underline{\hspace{2cm}}$ [a]
a. $y = a + bx$ b. $y = ax + bx$ c. $ax^2 + bx + c$ d. None
20. Exponential curve, $y = \underline{\hspace{2cm}}$ [a]
a. $y = ae^{bx}$ b. $y = ab^x$ c. $y = a+bx$ d. None

II. Fill in the blanks

1. Rank correlation is introduced by spearman
2. Correlation co-efficient $r = \frac{C_{0v}(x, y)}{\sigma_x \sigma_y}$
3. Regression was introduced by Galton
4. Regression co-efficient $b \times y = \frac{r\sigma_x}{\sigma_y}$

5. Regression co-efficient $by_x = \frac{r\sigma_y}{\sigma_x}$
6. Form of power curve $y = ax^b$
7. Form of parabola, $y = a + bx + cx^2$
8. Regression line of y on x $(y - \bar{y}) = \frac{r\sigma_y}{\sigma_x}(x - \bar{x})$
9. Regression line of x on y $(x - \bar{x}) = \frac{r\sigma_x}{\sigma_y}(y - \bar{y})$
10. Attribute means quality
11. Correlation ratio is independent of change of origin and scale
12. Multiple correlation lies in between 0 to 1
13. If $R_{1.23} = 1$, then association is perfect
14. If $R_{1.23} = 0$, then total and partial correlation involving X, are zero
15. A, B, C, D etc are called positive classes
16. $\alpha, \beta, \gamma, \Delta$ etc are called negative classes
17. If A is dancer, then α means Non-Dancer
18. Total No. of positive frequencies 2^n
19. For two attributes, ultimate class frequencies are 4
20. For three attributes, ultimate class frequencies are 8

III. Short Answers

1. Define correlation?

A: A relationship between two variables

2. Define rank correlation?

A: It is a correlation between the ranks

3. What is curve fitting?

A: It is a functional relationship between the variables in the form $y = f(x)$

4. What is regression?

A: It is average relationship between two or more variables

5. Write normal equation of straight line?

A: $\sum_{i=1}^n y_i = na + b \sum_{i=1}^n x_i$

6. Define partial correlation?

A: The correlation between two variables studied partially is called partial correlation.

7. What is consistency of data?

A: The given set of class frequencies is said to be consistent if none of them is negative

8. Yule's co-efficient of association?

A: $Q = \frac{(AB)(\alpha\beta) - (A\beta)(\alpha B)}{(AB)(\alpha\beta) + (A\beta)(\alpha B)}$

9. Co-efficient of colligation formula?

A: $y = \frac{1 - \sqrt{\frac{(A\beta)(\alpha B)}{(AB)(\alpha\beta)}}}{1 + \frac{(A\beta)(\alpha B)}{(AB)(\alpha\beta)}}$

10. Relation between Q and Y ?

A: $Q = \frac{2Y}{1 + Y^2}$