19U264S (Pages: 2) Name…….……

Reg No……..

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2020

(CUCBCSS – UG)

CC15 PSY2 C02 – PSYCHOLOGICAL STATISTICS II

(Statistics - Complementary Course)

(2015 to 2018 Admissions - Supplementary/Improvement)

Time: Three Hours Maximum: 80 Marks

Part A

Answer ***all*** questions. Each question carries 1 mark.

1. The range of multiple correlation coefficient is ……...

   a) 0 to 1 b) 0 to ∞ c) -1 to +1 d) -∞ to ∞

2. The correlation between two variables is unity, there is

   a) Perfect correlation b) perfect +ve correlation

   c) perfect –ve correlation d) no correlation

3. If A and B are two events, the probability of occurrence of either A or B is given by ……...

   a) P(A)+ P(B) b) P(AUB) c) P(A)P(B) d) P(A∩B)

4. The weight of persons in a country is a r.v of the type

   a) discrete b) continuous c) neither a nor b d) both a and b

5. If X and Y are two variables, there can be at most

   a) one regression line b) two regression lines

   c) three regression lines d) an infinite number of regression lines

6. A random variable is a ……... function.
7. The graph of the distribution function of a discrete r.v is called ……...
8. If the events A and B are disjoint, then P(AUB) = ……...
9. When the ranks of the two groups are the same, then the rank correlation coefficient is ……...
10. In a regression line of y on x, the variable x is known as ……...

(10 × 1 = 10 Marks)

Part B

Answer ***all*** questions. Each question carries 2 marks.

11. Define random variable.
12. What is regression?
13. Define sample space.

14. Define multiple regression.
15. Distinguish between linear and non - linear correlation.
16. Define independent event.
17. Define conditional probability.
18. Define union of a set.
19. What is probability mass function?
20. Define random experiment.

(10 × 2 = 20 Marks)

Part C

Answer any ***six*** questions. Each question carries 5 marks.

21. Distinguish between partial and multiple correlation.
22. Define probability. Explain frequency and axiomatic approaches to probability.
23. Explain scatter diagram.
24. What are the uses of correlation?
25. Explain distribution function and its properties.
26. Distinguish between correlation and regression.
27. State and prove multiplication theorem on probability.
28. Explain the merits and demerits of rank correlation.

(6 × 5 = 30 Marks)

Part D

Answer any ***two*** questions. Each question carries 10 marks.

29. State and prove addition theorem on probability.
30. Define correlation. Explain the different methods of correlation.
31. Compute Karl Pearson's correlation coefficient for the following data.

    X: 28 26 32 31 37 29 36 34 39 40

    Y: 75 74 82 81 90 80 88 85 92 95

32. Find the rank correlation coefficient between marks in two subjects A and B scored by 10 students.

    A: 88 72 95 60 35 46 52 58 30 67

    B: 65 90 86 72 30 54 38 43 48 75

(2 × 10 = 20 Marks)

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