19U239 (Pages: 2) Name : .....

Reg.No : .....

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2020

(CBCSS - UG)

CC19U PSY2 C02 : REGRESSION ANALYSIS AND PROBABILITY THEORY

(Statistics - Complementary)

(2019 Admission - Regular)

Time: 2.00 Hrs Max. Marks: 60

Credit: 3

(Draw diagram wherever necessary.The students can answer all questions in sections A & B)

A. Short answer questions. Each question carries 2 marks.

1. Enumerate the different types of Correlation.
2. List the different methods for studying correlatiom.
3. How do you interpret correlation coefficient.
4. If N=10 and $\sum d^2 = 92$, compute the value of the rank correlation coefficient.
5. Why there are two regression lines?
6. Write down the two regression equations.
7. Define Partial Correlation.
8. If A is an event and A' be its compliment, then prove that $P(A) + P(A') = 1$
9. Define independent events.
10. State the multiplication theorem.
11. Define probability mass function.
12. Write two properties of distribution function of a discrete random variable.

(Ceiling: 20 Marks)

B. Short essay questions (Paragraph). Each question carries 5 marks.

13. What is a Scatter diagram? What coclusions can be drawn from it?

14. From the following information, obtain the correlation coeffient.
    N=12, $\sum x = 30$, $\sum y = 5$, $\sum x^2 = 670$, $\sum y^2 = 285$, $\sum xy = 334$

15. Explain the method of identifying the regression lines.

16. What is multiple regression?

17. What do you mean by
    1) Complement of an event
    2) Union of two events
    3) Intersection of two events

18. What are mutually exclusive , independent, dependent, exhaustive events?

19. Define discrete and continuous random variable. Give some examples.

(Ceiling: 30 Marks)

C. Essay questions. Answer any one question.

20. Calculate Pearson's coefficient of correlation between advertisement cost and sales as per the data given below:

Advt.cost in Rs	39	65	62	90	82	75	25	98	36	78
Sales in lakh Rs	47	53	58	86	62	68	60	91	51	84

21. Calculate Spearman Rank order correlation co-efficient for the following data of marks in two subjects X and Y, of 10 students.

X :	90	82	82	82	81	71	63	63	49	38
Y :	75	72	71	71	73	73	50	40	32	35

(1 × 10 = 10 Marks)

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