16U229

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Name: ....

Reg. No.............................

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY-2017

(Regular/Supplementary/Improvement)

(CUCBCSS – UG)

CC15U PSY2 C02 – PSYCHOLOGICAL STATISTICS

(Complementary Course: Statistics)

(2015 Admission Onwards)

Time: Three Hours

Maximum: 80 Marks

Part A
Answer all questions (Each question carries 1 mark)

1. The oldest and simplest approach to probability is

    a)Empirical   b) Classical   c) Axiomatic   d) Subjective

2. The scatter diagram of the variate values (x,y) gives the idea about

    a) Functional relationship   b) Regression model

    c) Distribution errors   d)None of the above

3. Sample point is also called ....

    a) Sample space   b) Elementary outcome   c) Event   d) None of these

4. Those events which cannot happen simultaneously in a single trial are

    called.......events.

    a)Equally likely b) Independent c)Dependent d)Mutually exclusive

5. An empty set is also known as...................

6. Correlation can be...

7. If correlation between the two variables is unity, there exists................................

8. An event whose occurrence is neither sure nor impossible, is called ....

9. The two regression lines are mutually perpendicular when r = ...

10. If the random variable of a probability distribution assumes specific values only,

    then it is called ....

(10 ×1 = 10 marks)

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(Turn Over)

Part B
Write short notes on all questions (Each question carries 2 marks)

11. What is partial correlation?

12. What is mutually exclusive events?

13. What is sample space?

14. A card is drawn from a pack of cards. What is the probability that it is ?

   a) a king or a queen   b) a king or a spade

15. What is the meaning of zero correlation coefficient?

16. What is multiple correlation?

17. State Baye's theorem.

18. $P(A) = 2/3$, $P(B) = 4/9$ and $P(AnB) = 8/27$, examine whether A and B are

   Independent.

19. If $N = 10$ and $\Sigma d^2 = 92$ compute the value of the rank correlation coefficient.

20. If $P(A) = 0.6$, $P(B) = 0.3$, and $P(AnB) = 0.2$ then find out $P(AuB)$?

(10 ×2 = 20 marks)

Part C
Answer any six questions. (Each question carries 5 marks)

21. What is the difference between discrete random variable and continuous random variable.

22. The probability of winning the race of X is 1/4 and Y is 1/5. What is the probability that either X or Y is going to win the race?

23. Discuss merits and demerits of scatter diagram?

24. State multiplication theorem of probability for independent events.

25. Prove that mutual independence implies pairwise independence.

26. If $N = 10$ and $\Sigma d^2 = 92$ compute the value of the rank correlation coefficient.

27. What are the uses of Spearman rank correlation?

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28. Explain the addition theorem for any three events.

$(6 \times 5 = 30 \text{ marks})$

Part D

Answer any two questions. (Each question carries 10 marks)

29. The following information gives the result of a competitive examination held in an

    area on February ,2014:

Age of the candidates :	13	14	15	16	17	18	19	20	21
Percentage of failure :	39	41	43	34	37	39	49	47	55

    Find Karl Pearson's coefficient of correlation

30. The probability that A solve a problem in Mathematics is 3/5 and the probability that

    B solve the problem is 1/2 . If they try independently find the probability that:

    a) Both solve the problem.

    b) At least one solve the problem

31. The two regression lines are given by:

    $2x + 3y - 6 = 0$

    $5x + 7y - 12 = 0$

    a) Identify the equations of Y on X and X on Y.

    b) Find the mean values of X and Y.

32. Give an account of the applications of regression in Psychology.

$(2 \times 10 = 20 \text{ marks})$

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