24U266 (Pages: 2) Name : .....

Reg. No : .....

SECOND SEMESTER UG DEGREE EXAMINATION, APRIL 2025

(FYUGP)

CC24UBBA2CJ103 - FOUNDATIONS FOR BUSINESS ANALYTICS

(B.B.A. - Major Course)

(2024 Admission - Regular)

Time: 2.0 Hours Maximum: 70 Marks

Credit: 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 3 marks.

1. If P(A)=1/13, P(B)=1/4 and P(AUB)=4/13. Find P(A∩B). [Level:2] [CO1]

2. A die is thrown. Find the probability (1) an even number (2) '3' or '5' and (3) less than 3. [Level:2] [CO1]

3. Define a random variable and explain the difference between a discrete and continuous random variable. [Level:2] [CO2]

4. Can non-probability sampling be used in all research studies? Why or why not? [Level:3] [CO3]

5. Explain the difference between a sample and a population in statistics? Explain with an example. [Level:2] [CO3]

6. Explain positive and negative correlation? [Level:2] [CO3]

7. Explain the Effect of Sample Size on Accuracy. [Level:2] [CO1, CO2, CO3, CO4, CO5]

8. Explain the term probable error? [Level:2] [CO3]

9. Trend equation obtained is y= 21+ 1.2x with 2000= 0. Find the trend equation shifting the origin to1998. [Level:2] [CO4]

10. Index Numbers are specialised averages. Explain. [Level:2] [CO4]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

Answer ***all*** questions. Each question carries 6 marks.

11. State benefits and steps involved in Descriptive Analysis ? [Level:2] [CO1]

12. Define probability and explain the various types of probability [Level:2] [CO1]

13. A book contains 100 misprints distributed randomly throughout its 100 pages. What is the probability that a page observed at random contains at least 2 misprints? (Assume poisson distribution). [Level:3] [CO2]

14. In a normal distribution 17% of the items are below 30 and 17% of the items above 60. Find the mean and standard deviation. [Level:3] [CO2]

15. How does the size of a sample influence the variability of the sample statistic? Explain how increasing the sample size affects the precision of estimating population parameters. [Level:3] [CO3]

16. Explain the methods of drawing regression lines. [Level:2] [CO3]

17. Explain the Meaning and Importance of Index Numbers. [Level:2] [CO4]

18. What is Time Reversal Test? Show whether or not (1) Laspeyer's Index Number. (2) Paasche's Index Number (3) Fisher's Index Number satisfy this test. [Level:2] [CO4]

(Ceiling: 36 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

19. Five coins are tossed 3200 times. Find the frequencies of the distribution of heads and tails. Calculate the mean and standard deviation. [Level:3] [CO2]

20. The following data show the maximum and minimum temperature on a certain day at 10 important cities throughout india. [Level:3] [CO3]

Maximum temperature :	29	23	25	15	27	29	24	31	32	35
Minimum temperature :	8	3	7	5	8	19	10	7	5	8

(a) Fit regression line of X on Y and Y on X.

(b) Estimate the maximum temperature when the minimum temperature is 12.

(c) Estimate the minimum temperature when the maximum temperature is 40.

(1 × 10 = 10 Marks)

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