**D 120487** **(Pages : 3)** **Name.....**

**Reg. No.....**

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION**
**APRIL 2025**

B.B.A.

BBA 4C 04—QUANTITATIVE TECHNIQUES FOR BUSINESS

(2019—2023 Admissions)

Time : Two Hours and a Half Maximum : 80 Marks

**Part A**

*Answer* **all** *questions.*

1. What is a Venn Diagram ?
2. What is meant by regression ?
3. What is meant by Normal distribution ?
4. What is meant by Rank Correlation ?
5. What is meant by Probable Error ?
6. What are Irregular Variations ?
7. What are Complementary events ?
8. What is meant by Base Shifting ?
9. What is Correlation ?
10. What are cyclical variations ?
11. What is Index Number ?
12. What is meant by Multiple Correlation ?
13. What is Conditional Probability ?
14. What is meant by Baye's Theorem ?
15. What is meant by discrete probability distribution ?

(15 × 2 = 30, Maximum ceiling 25 Marks)

**Turn over**

**Part B**

*Answer* **all** *questions.*

16. State the steps in construction of Consumer Price Index.

17. State the differences between positive and negative correlation.

18. State the merits and demerits of Pearson's Coefficient of Correlation.

19. Calculate co-efficient of correlation by concurrent deviation method :—

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | : | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Supply | : | 160 | 164 | 172 | 182 | 166 | 170 | 178 | 192 | 186 |
| Price | : | 292 | 280 | 260 | 234 | 266 | 254 | 230 | 190 | 200 |

20. Two unbiased dice are thrown. Find the probability that : -

    Both the dice show the same number

    One die shows 6

    First die shows 3

    Total of the numbers on the dice is 9

    Total of the numbers on the dice is greater than 8

    A sum of 11

21. Calculate the six-year moving average :

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Years | : | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Demand (intones) | : | 105 | 120 | 115 | 110 | 100 | 130 | 135 | 160 | 155 | 140 | 145 |

22. Construct index numbers for 2012 on the basis of the price of 2010 :

| Commodities | Price in 2010 | Price in 2012 |
|---|---|---|
| A | 115 | 130 |
| B | 72 | 89 |
| C | 54 | 75 |
| D | 60 | 72 |
| E | 80 | 105 |

23. For a Binomial Distribution, mean is 6 and Standard Deviation is $\sqrt{2}$. Find the parameters ?

(8 × 5 = 40 Maximum ceiling 35 Marks)

## Part C

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

24. Write an essay on various classification of correlation.

25. Write an essay on various methods of measuring correlation.

26. Two variables gave the following data

$\bar{x} = 20, \sigma x = 4, r = 0.7$
$\bar{y} = 15, \sigma x = 3.$

Obtain regression lines and find the most likely value of $y$ when $x = 24$.

27. Following were the ranks given by three judges in a beauty context. Determine which pair of judges has the nearest approach to Common tastes in beauty :

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Judge 1 | ; | 1 | 6 | 5 | 10 | 3 | 2 | 4 | 9 | 7 | 8 |
| Judge 2 | : | 3 | 5 | 8 | 4 | 7 | 10 | 2 | 1 | 6 | 9 |
| Judge 3 | : | 6 | 4 | 9 | 8 | 1 | 2 | 3 | 10 | 5 | 7 |

(2 × 10 = 20 marks)