

**TILAK MAHARASHTRA VIDYAPEETH, PUNE**  
**BACHELOR OF BUSINESS ADMINISTRATION (B.B.A.) (071)**  
**EXAMINATION: MAY - 2026**  
**SEMESTER - IV**

**Sub.: Statistics and Quantitative Methods/Statistical and Quantitative Methods**  
**(BBA23-412) (For Batch-2023-24)**

**Date : 15/05/2026**

**Total Marks : 60**

**Time: 2.00 pm to 4.30 pm**

**Instructions:** 1) All questions are compulsory.  
 2) Figures to the right indicate full marks.

**Q. 1. Choose the most appropriate option. (05)**

1. Business mathematics mainly deals with-----
  - a) Social issues
  - b) Business calculations
  - c) Business calculations
  - d) None of these
2. The ratio of 20 : 40 is- -----
  - a) 1:2
  - b) 2:1
  - c) 3:2
  - d) 4:1
3. Cash discount is given for-----
  - a) Bulk purchase
  - b) Immediate payment
  - c) Transport
  - d) Storage
4. Compound interest is calculated on-----
  - a) Principal only
  - b) ) Amount
  - c) Principal + interest
  - d) None
5. An annuity is-----
  - a) Unequal payments
  - b) Random payments
  - c) Equal payments at regular intervals
  - d) One-time payment

**Q. 2. State True / False (05)**

1. Business Mathematics helps in solving business problems using mathematical methods.
  - a) True
  - b) False
2. Ratio compares two quantities of the same kind.
  - a) True
  - b) False
3. Trade discount is given to customers for immediate payment.
  - a) True
  - b) False
4. Simple interest is calculated only on the principal amount.
  - a) True
  - b) False
5. An annuity refers to equal payments made at regular intervals.
  - a) True
  - b) False

**Q. 3. Write Short notes on (Any Three) (15)**

1. Laspeyres Index Number
2. Coefficient of Variation (CV).
3. Business Statistics use in Business
4. Use of Median in Analysis
5. Various measures of dispersion.

**Q. 4. Answer in detail (Any Two)****(20)**

1. A shop sold 5 units of a product at prices: Rs. 20, Rs. 22, Rs. 25, Rs. 30, Rs. 33. Then find the followings -
  1. Find mean price.
  2. Find median price.
  3. Comment on trend.
2. Data of advertising expenses (X in ₹000) and sales (Y in ₹000)-

|   |    |    |    |    |    |
|---|----|----|----|----|----|
| X | 10 | 20 | 30 | 40 | 50 |
| Y | 20 | 25 | 35 | 45 | 55 |

Check the followings -

1. Is there correlation?
  2. Type of correlation?
  3. Use in business?
3. What is linear regression? Explain regression lines and their uses.
  4. What is correlation? Explain types and significance

**Q. 5. Case study****(15)**

Prices in 2020 (base year): Rice 40, Wheat 35, Sugar 30

Prices in 2024: Rice 60, Wheat 50, Sugar 45

Quantities (base): 10, 8, 6

**Questions: -**

1. Construct Laspeyres Price Index
2. Interpret your result .
3. What does it imply for consumers?