

TILAK MAHARASHTRA VIDYAPEETH, PUNE
BACHELOR OF BUSINESS ADMINISTRATION (B.B.A.)
EXAMINATION: MAY/JUNE - 2025
SEMESTER - III

Sub.: Business Mathematics (BBA22-311/BBA23-312)

Date : 2/06/2025

Total Marks : 60

Time: 2.00 pm to 4.30pm

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

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

- _____ is the fresh approach to digital investing that engages clients online.
 - Virtual brokers
 - Brokers at a discount
 - Brokers
 - Complete brokers
- S.I. for Rs. 12500 for 3.5 years with 12.5% is _____.
 - 5468.75
 - 54.6875
 - 546.875
 - 54687.5
- The sum of all periodic payments along with the interest is called _____.
 - Accumulated amount
 - Annuity
 - True value
 - periodic payments
- How many days would it take 10 men to finish the same work that 5 men could finish in 80 days?
 - Direct proportion
 - Mixed proportion
 - Inverse proportion
 - Indirect proportion
- The duplicate ratio of 4 : 5 is _____.
 - 16 : 20
 - 9 : 16
 - 12 : 10
 - 4 : 9

Q. 2. State True / False (05)

1. In compound interest, interest is calculated only on the principal amount.
a) True
b) False
2. Depreciation methods like the straight-line method allocate the same amount each year.
a) True
b) False
3. If demand increases while supply remains constant, prices will decrease.
a) True
b) False
4. In probability, the sum of all possible event probabilities can exceed 1.
a) True
b) False
5. The time value of money concept states that a rupee today is worth more than a rupee in the future.
a) True
b) False

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

1. Break-Even Analysis
2. Compound Interest
3. Time Value of Money
4. Demand and Supply Analysis
5. Annuities

Q. 4. Answer in detail (Any Two)

(20)

1. With an investment of five lakhs each, Mr Mahesh, Mr Ganesh, and Mr. Suresh launched a transportation company. After the company had been operating for five months, Mr. Mahesh quit, and Mr. Ganesh left three months later. The company made a profit of 6,75,000 at the end of the year. Discover each partner's profit split.
2. If 5 workers complete a task in 10 days, how many days will it take for **10** workers to complete the same task?
3. A machine costing Rs. 1,00,000 has a useful life of 5 years and a salvage value of Rs. 10,000. Calculate the annual depreciation using the straight-line method.
4. If Rs. 20,000 is invested at 5% annual interest compounded quarterly for 4 years, what will be the total amount?

Q. 5. Case study

(15)

An insurance agent receives 40% of the premium for the first year, 15% for the second and third years, and 10% for the subsequent year's premium for a policy of Rs. 900,00,000. The annual premium is Rs. 50 per thousand. After five years of premium payments-

Question

- 1) Estimate 1st year commission.
 - 2) Estimate second year commission.
 - 3) Calculate 5 year total commission of the Insurance agent received.
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