



Examination Paper Business Mathematics
First Year (Commerce)

Total Duration: 40 min

Total Marks: 25

SECTION "A" (M.C.Qs)

Q.1) choose the correct answer for each from the given options:

(25 marks)

1. The number 0, 1, 2, 3, 4... are called.

- (a) Natural numbers
- (b) Odd numbers
- (c) Whole numbers
- (d) None of these

2. The number 0, 1, 2, 3, 4... are called.

- (a) Even numbers
- (b) Whole numbers
- (c) Natural numbers
- (d) None of these

3. The number -3, -2, -1, 0, 1, 2, 3 are called.

- (a) Whole numbers
- (b) Natural numbers
- (c) Integers
- (d) None of these

4. The product of a matrix by its inverse is equal to:

- (a) Null matrix.
- (b) Singular matrix.
- (c) Identity matrix.
- (d) Transpose matrix.

5. A matrix which does not have an inverse, is called

- (a) transpose
- (b) row matrix
- (c) singular
- (d) unit matrix

6. A matrix B can be added to a matrix $A_{3 \times 4}$ only if the order of B is

- (a) 43
- (b) 34
- (c) $3 + 4$
- (d) 3×4

7. Which system has only ten digits?

- (a) Binary.
- (b) Denary.
- (c) Digital.
- (d) None of these.

8. A number system is based on two basic concepts. They are digits and

- (a) Positions.
- (b) Notations.
- (c) Decimals
- (d) None of these

9. Binary system is also called

- a) Base – one system
- b) (b) Base – zero system
- c) Base – two system
- (d) None of these

10. Which of the following system has only ten digits?

- (a) Binary
- (b) Denary
- (c) Digital
- (d) None of these.

11. For the quadratic equation $x^2 + 5x - 6 = 0$, the value of b =?

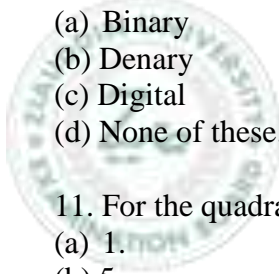
- (a) 1.
- (b) 5.
- (c) 6.
- (d) 0.

12. When a series of payments of equal amount are made at equal intervals, each Payment is known as:

- (a) Perpetuity
- (b) Investments
- (c) Installment
- (d) Annuity

13. If interest is computed on principal amount for the entire period it is called.

- (a) Annuity
- (a) Compound
- (c) Simple interest
- (d) None of these



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14. Amount of annuity is also called

- (a) Future value of annuity
- (c) Present value of annuity
- (b) Past value of annuity
- (d) None of these

15. The principal amount is also called

- (a) Price value
- (b) Present value
- (c) Compound amount
- (d) Accumulated value

16. When the interest is computed only on principle for the entire period, it is called.

- (a) Compound Interest
- (b) Annuity
- (c) Simple Interest
- (d) Interest Rate

17. Find y-intercept, If Straight line equation is $7x+9y=63$.

- (a) $7/63$
- (b) 7
- (c) 9
- (d) $9/63$

18. The plane formed by r - axis and y-axis is called

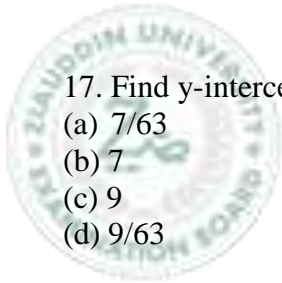
- (a) Vertical plane
- (b) Co-ordinate plane
- (c) Horizontal plane
- (d) none of these.

19. The points where parabola cuts x – axis are called

- (a) Coordinates
- (b) Roots
- (c) Points
- (d) Directions

20. The turning point of the parabola is called

- (a) Intercept
- (b) Root
- (c) Vertex
- (d) None of these



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21. Graph of linear equation is also called graph of a

- (a) Parabola
- (b) Slope
- (c) Straight line
- (d) None of these

22. Equality of two ratios is called

- (a) Ratio.
- (b) Compound.
- (c) Quantity.
- (d) Proportion

23. More money, more shopping is an example of

- (a) Direct Proportion
- (b) Inverse Proportion
- (c) Neither Direct nor Inverse Proportion
- (d) None of These

24. The ratio of 1kg to 50 grams is:

- (a) 20:1
- (b) 1:20
- (c) 1:50
- (d) 50:1

25. A boy is at present 5 years old and his sister is twice as old. When the boy is 8 years old, what will be the age of his sister

- (a) 16 years
- (b) 12 years
- (c) 15 years
- (d) 13 years

SECTION 'B'

(SHORT- ANSWER QUESTION)

Attempt any **THREE** Questions; all question carries equal marks.

Marks: 15.

Q.no.2) 25 Laborer construct 15 rooms in 18 days. In how many days can 10 laborer constructs 10 rooms of the same size?

Q.no.3) Compute the compound interest on Rs. 5000/- for 4 years at the rate of 5% per annum, compounded semiannually.

OR

An amount is invested at 10% compounded quarterly, find the effective rate of interest.

Q.no.4) Find the equation of straight line passing through the points (4, 3) and (2, -3). Also find the X-intercept and y-intercept.

Q.no.5) Perform the following binary operation;
(a) $11011 + 10111 + 101$. (b) $1100011 - 100110$.

Q.no.6) Find the vertex and root of the Parabola:
 $y = x^2 - 2x - 8$.

SECTION 'C'
Detailed-Answer Questions.

Attempt any **ONE** Question

Marks: 10.

Q.no. 7) (a) Solve the following equations, using Cramer's Rules:

$$3x + 2y = 54.$$

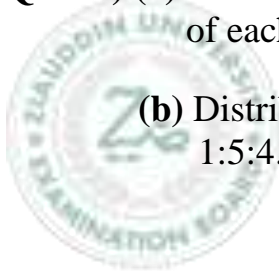
$$2x + 3y = 10.$$

(b) Solve the following equations:

$$\frac{3x+2}{2} + \frac{4x+5}{4} - \frac{3x-8}{8} = 16$$

Q.no.8) (a) Find the sum of annuity, if an amount of Rs. 500 is invested at the end of each half year for 5 years at 6% per annum compounded half yearly.

(b) Distribute an amount of Rs. 6800 among three persons in the ratio of 1:5:4. What is the share of each person?



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