QP CODE: 24019155

24019155

Reg No : .....

Name : .....

BBA DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, MAY 2024

Second Semester

Bachelor of Business Administration

Complementary Course - BA2CMT08 - MATHEMATICS FOR MANAGEMENT

2017 ADMISSION ONWARDS

5293DF45

Time: 3 Hours Max. Marks : 80

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Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Find the distance between the origin and the point (x_1, y_1).
2. Find the Midpoint of the line joining (4 , 3) and (2 , 5) .
3. Find the centroid of a triangle whose vertices are (-4, 6) , (2 , -2) and (2,5).
4. If a point on a straight line is (2,-3) and the slope of the line is 3, find its equation.
5. Find the slope of the line 3x - 4y +8 = 0.
6. Convert ax + by + c = 0 in the slope form.
7. State the relation for the nth term of an AP.
8. Given the series 2 , 6 , 18 , 54 , ...Find the 12 th term and n th term.
9. Find the simple interest on ₹ 300 for 7 years at 14% per annum.
10. Find the amount at the end of 7 years for ₹ 15,000 at 6% per annum compound interest .
11. A machine costs ₹ 50,000 . Calculate its scrap value at the end of 8 years , depreciation on the reducing instalment system being charged at 10% per annum.
12. Find the rate of interest corresponding to a rate of discount of 7% .

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Show that the points (2, 5), (5, 2) and (6, 6) are vertices of an isosceles triangle.

14. Prove that the points (3,2),(11,8) ,(8,12),(0,6) are the vertices of a Rectangle.

15. Write down the equation to the line passing through (2,5) and parallel to 3x + 7y = 9.

16. Find the equation of the line perpendicular to 3x +4y+7 = 0 and passing through (-1 , 2).

17. The sum of the first 11 terms of an AP is 19 and the sum of the first 19 terms is11.Find the sum of the first 30 terms.

18. The third term of aGP is 12 and 6 th term is 96. Find the sum of the 4 terms and the common ratio.

19. Find the amount of an annuity, if a payment of ₹ 1,000 is made at the end of every quarter for 10 years at the rate of 8% per annum compounded quarterly.

20. Find the present value of ₹ 8,000 at 12% per annum compound interest due at the end of sixth year.

21. A man borrows ₹ 10,000 at 9% compound interest and agrees to pay the principal in 10 equal annual instalments at the end of each year . Find the amount of each instalment.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. (a) Find the area of the quadrilateral formed by the points(1,2),(6,2),(5,3),(2,4).
(b) Show that the points are collinear (1,-1),(2,1),(4,5) are collinear.

23. (a) Show that the straight line given by the following equations are concurrent.
3x - y + 4= 0, 2x + 7y - 5 = 0, 5x + 6y -1 = 0
(b) Find the point of intersection of the following pair of lines.
2x + 3y - 3 = 0 , x -2y +6 = 0
(c) Find the value of k if (2 ,k) lies on the line 3x -2y -3 = 0.

24. (a)Find the 14 arithmetic means which can be inserted between 5 and 8 and show that their sum is 14 times the arithmetic mean between 5 and 8 ?
(b)Find the five numbers in AP such that their sum is 20 and the product of the first and the last terms is 15

25. Sum to 'n' terms of the series (a)5 + 55+ 555+.....
(b)0.5+0.55+0.555.....

(2×15=30)