

QP CODE: 22103082



Reg No : .....

Name : .....

**BBA DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE  
EXAMINATIONS, OCTOBER 2022**

**Second Semester**

Bachelor of Business Administration

**Complementary Course - BA2CMT08 - MATHEMATICS FOR MANAGEMENT**

2017 ADMISSION ONWARDS

A9657661

Time: 3 Hours

Max. Marks : 80

**Part A**

*Answer any ten questions.*

*Each question carries 2 marks.*

1. what is the co ordinate of the mid point of the line joining (  $x_1$  ,  $x_2$  )
2. Prove that the points (-1,0),(11,8) ,(1,3),(0,0) are the vertices of a parallelogram
3. Find the centroid of a triangle whose vertices are (  $a$  ,  $0$  ) , (  $0$  ,  $b$  ) and (x,y)
4. Write the equation of (i) X- axis (ii) y- axis
5. Show that (-1, -2) is a point on the line  $4x + 3y + 10 = 0$ .
6. Show that the lines  $3x - 4y - 8 = 0$  and  $6x - 8y + 5 = 0$  are parallel.
7. Find the sum of the first ' n ' odd natural numbers ?
8. Find the 15 th term of the series 3 , -6 , 12 , -24 , .....
9. Find the simple interest on ₹ 25,000 at 10% per annum for 4 years.
10. Find the rate of interest corresponding to a rate of discount of 8% ?
11. Find the total amount of an annuity of ₹ 400 payable at the end of every year for 6 years at 8% per annum compound interest ?
12. What sum will amount to ₹ 1,000 in 2 years at 5% per annum compound interest payable half yearly ?

(10×2=20)

**Part B**

*Answer any six questions.*

*Each question carries 5 marks.*





13. If the distance between the points  $(a,1)$  and  $(8,a)$  is 5 units .Find the value of a
14. Find the area of the triangle whose vertices are  $(3,-7),(-3,3),(7,9)$
15. (a) Write down the equation of a straight line whose slope is 4 and passing through the origin.  
(b) Find the slope of a line joining  $(4, 2)$  and  $(5, -3)$
16. Express the Equation  $3x + 4y + 2 = 0$  in the intercept form and hence obtain the X-intercept and Y-intercept of the line.
17. Give any two properties of AP.,with examples.
18. Insert 5 geometric means between 2 and 1458
19. In what time will ₹ 100 amount to ₹ 300 at 8% per annum compound interest payable half yearly ?
20. A machine is depreciated in such a way that at the end of any year the value is 90% of the value at the beginning of the year . The cost of the machine was ₹ 20,000 and it was sold as waste metal for ₹ 500 on finding it is not working properly . How many years the machine was in use ?
21. A buys a piece of land at ₹ 2,00,000 for which he agrees to make equal payments at the end of each year for 8 years . If money is worth 8% per annum , find the amount of each instalment ?

(6×5=30)

### Part C

Answer any **two** questions.

Each question carries **15** marks.

22. (a) Show that the points  $(3,2)$  , $(6,3)$  and  $(4,11)$  are the vertices of a right angled triangle  
(b)Show that the points  $(4,1)$  , $(3,4)$  and  $(2,1)$  are the vertices of an isosceles triangle  
(c) Show the points  $(2,4)$  , $(2,6)$  and  $(2 + \sqrt{3}, 5)$  are vertices of an equilateral triangle
23. Find the equation of the sides and altitude of the triangle formed by  $(2,3),(1,4),(2,0)$
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. (a)Sum the series  $0.4 + 0.44 + 0.444 + \dots$   
(b)How many terms of the series  $3, 9, 27, \dots$  amount to 363 ?

(2×15=30)

