18103002 (Pages : 2) Reg. No.....

Name.....

B.B.A. DEGREE (C.B.C.S.) EXAMINATION, JUNE 2018

Second Semester

Complementary Course—MATHEMATICS FOR MANAGEMENT

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer any **ten** *of the following.*
Each question carries 2 marks.

1. Find the distance between the points (4, –7) and (–1, 5).
2. Show that the three points (1, 4) (3, –2) and (–3, 16) are collinear.
3. Find the centroid of the triangle whose vertices are the points (3, –5), (–7, 4) and (10, –2).
4. Find the slope of the line joining the points (0, 0), (1, 2).
5. Find the equation of the line joining the points (1, 2), (2, 1).
6. Find the 16th term of the series 3.75, 3.5, 3.25, ...
7. Which term of the arithmetic progression 44, 39, ...is 9 ?
8. Write any two properties of an arithmetic progression.
9. Find the 6th term of the series 4, 12, 36, ...
10. Find the sum of first 14 term of a geometric progression 3, 9, 27, 81, 243, 729,.....
11. What are the different types of annuity ?
12. Write the formula for the present value of an ordinary annuity of Rs. R per payment period for n periods at the rate of r per period.

(10 × 2 = 20 marks)

Part B

Answer any **six** *questions.*
Each question carries 5 marks.

13. Find the point that divides the join of (1, 2), (3, 4) in the ratio 2 : 5.
14. If the points $(2, \frac{3}{2})$, $(-3, \frac{-7}{2})$ and $(K, \frac{9}{2})$ are collinear find out the value of K.

Turn over

15. Find the equation of the line passing through the point (1, 1) and parallel to the line $4x + 4y + 7 = 0$.

16. Find the equation of the line passing through the point (3, 1) and perpendicular to the line $2x + 7y - 5 = 0$.

17. Find the sum of $\frac{3}{4}, \frac{2}{3}, \frac{7}{12}, \ldots\ldots$ upto 19 terms.

18. The sum of four integers in AP is 24 and their product is 945. Find them.

19. Find the sum of first 11 terms of a G.P. given by 1, $\frac{-1}{2}, \frac{1}{4}, \frac{-1}{8} \ldots\ldots$

20. If a bill of Rs. 1,000 is due after 10 years at simple interest 5 percent per annum. What is true discount banker's interest ?

21. In what time would a sum of money triple itself at 8% compound interest ?

(6 × 5 = 30 marks)

Part C

Answer any **two** *questions.*
Each question carries 15 marks.

22. Show that the three lines given by the equations $4y - 3x + 22 = 0$; $x - y - 6 = 0$; and $6x + 5y - 8 = 0$ are concurrent. Find their point of intersection.

23. Find the sum of all numbers between 200 and 400 which are divisible by 7.

24. Sum the series $5 + 55 + 555 + \ldots\ldots$ upon n terms.

25. Find the present value of an annuity of Rs. 200 payable at the end of each 3 months for 10 years, if the money is worth 8% converted quarterly.

(2 × 15 = 30 marks)