K22U 3570

Reg. No. : ....

Name : ....

Third Semester B.B.A./B.B.A. (RTM) Degree (CBCSS-OBE-Regular/
Supplementary/Improvement) Examination, November 2022
(2019 Admission Onwards)
GENERAL AWARENESS COURSE
3A11BBA/BBA(RTM) : Numerical Skills

Time : 3 Hours

Max. Marks : 40

PART – A

Very short answer. Answer **all** the questions. **Each** question carries **one** mark.

1. What is an Equation ?

2. Explain your idea about Arithmetic Progression.

3. Define a Scalar Matrix.

4. What is a Null set ?

5. Explain the term time value of money.

6. What is Geometric mean ?

$(6\times1=6)$

PART – B

Short answer. Answer **any six** questions. **Each** question carries 2 marks.

7. Solve $7(X - 2) + 8 (X - 3) - 22 = X + 10$.

8. Find 12th term and sum of 12 terms of the series
   $1, -1, 2, -2, \ldots$

9. Find 15th term of the series $3, -6, 12, -24, \ldots$

10. Show that $\begin{bmatrix} 2 & -1 & 3 \\ -1 & 2 & 1 \\ 3 & 1 & 4 \end{bmatrix}$ is symmetric.

11. With the support of an example, explain the term Union of two sets.

P.T.O.

12. Find the total interest and amount at the end of 5th year for Rs. 5,000 at 10% per annum, simple interest.

13. Write down all the subsets of the set A = {3, 4, 5}.

14. 2X + 3Y = 4; 4X + 5Y = 6. Express these equations in the matrix equation form.

$(6 \times 2 = 12)$

PART – C

Essay. Answer **any four** questions. **Each** question carries **3** marks.

15. 4X + 2Y = 6
    5X + Y = 6
    Find the value of X and Y.

16. Solve the equation 2X + 5/X = 7.

17. A man saved Rs. 16,500 in ten years. In each year after the first he saved Rs. 100 more than he did in the preceding year. How much did he save in the first year ?

18. If the value of a car is depreciated 20% annually, what will be its estimated value at the end of the 10th year, if its present value is Rs. 5,000 ?

19. Let $P = \begin{bmatrix} 0 & 1 \\ 2 & 3 \end{bmatrix}$, $Q = \begin{bmatrix} -1 & 2 \\ 4 & 3 \end{bmatrix}$ and $R = \begin{bmatrix} 2 & -1 \\ 6 & 5 \end{bmatrix}$.

    Find P(Q + R) and PQ + PR. Hence prove P(Q + R) = PQ + PR.

20. Find the sum at the end of 4 years for Rs. 10,000 at 10% per annum, compound interest.

$(4 \times 3 = 12)$

PART – D

Long essay. Answer **any two** questions. **Each** question carries **5** marks.

21. Solve the following simultaneous equations using Crammer's rule.
    5X – 6Y + 4Z = 15, 7X + 4Y – 3Z = 19, 2X+Y+6Z = 46.

22. Demand for goods of an industry is given by the equation pq = 100 and supply is given by the equation 20 + 3p = q, where p is the price and q is the quantity, find p and q.

23. A man sells 7 horses and 8 cows at Rs. 5,880 and 6 cows and 5 horses at Rs. 4,300. What is the selling price of each ?

24. Find the three numbers in A.P. whose sum is 9 and the product is –165. $(2 \times 5 = 10)$