	RIS AND SCIENCE CC	K22U 2854
Reg. No. :	SC LIBRARY	
Name :	D Library	ຊ ເດັດຊາງປະເມດ ເມື່ອງ
Third Semester B.	Com. Degree (CBCSS - Su	pplementary)
Exa	mination, November 2022	1.1 State.
	(2016-18 Admissions)	
	General Course	
3A12COM : N	UMERICAL SKILLS FOR B	USINESS

Time: 3 Hours

Max. Marks: 40

PART – A

Answer all the questions. Each carries 1/2 mark.

1.	A set with no elements is called _	3	
	a) Null set	b)	Finite set
	c) Infinite set	d)	None

2. The value of determinant $\begin{vmatrix} 5 & 6 \\ 3 & 4 \end{vmatrix}$ is _____ a) 2 b) -2 c) 38 d) -38

3. _____ is one of the solutions to the equation $3x^2 - 4x + 1 = 0$.

a) $x = -1$	b) x = 1
c) $x = 2$	d) $x = 0$

4. Simple interest for a sum of Rs. 500 for 2 year at the rate of 8% p.a. is

a) 580	b) 420
c) 80	d) 16

PART – B

Answer any four questions. Each carries one mark.

 Income of Rahim is Rs. 12,000/month and that of Ami is Rs. 1,91,520 p.a. if the monthly expenditure of each of them is Rs. 9,960/month. Find the ratio of their savings.

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- Find the rate of interest per annum if the simple interest on a Principal of Rs. 5,000 is 800 for 4 years.
- 7. What are the types of surds ?
- 8. What do you mean by symmetric matrix ?
- 9. Show that $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ is idempotent.
- 10. Solve 8x + 7 = 6x + 18.

PART – C

Answer any six questions (not exceeding one page). Each carries three marks.

- 11. How much coffee of variety A, costing Rs. 5 a kg should be added to 20 kg of type B coffee at Rs. 12 a kg so that the cost of the two coffee variety mixture be worth Rs. 7 a kg ?
- 12. Solve y = 3(x + 1)4x = y + 1.
- 13. Find the effective rate of interest if interest is calculated at 8% quarterly.
- 14. In a survey it was found that 21 people liked product A, 26 liked product B and 29 liked product C. 14 people liked products A and B, 12 people likes products C and A, 14 people liked products B and C and 8 liked all the three products, find how many liked product C only.

15. Find the rank of
$$\begin{bmatrix} 5 & 2 & 1 \\ 0 & 1 & 3 \\ 2 & 1 & 0 \end{bmatrix}$$
.

- 16. An investor intends purchasing a 3 year Rs. 1,000 par value bond having nominal interest rate of 10%. At what price the bond may be purchased now if it matures at par and the investor requires a rate of return of 14% ?
- 17. Explain the distributive law of set operation.
- 18. If $A = \begin{bmatrix} 0 & 1 \\ 2 & 3 \end{bmatrix} B = \begin{bmatrix} 2 & -1 \\ 6 & 5 \end{bmatrix}$ show that $AB \neq BA$.

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PART – D

Answer any two questions. Each carries eight marks.

19. Solve the following equations using Cramer's rule

3x + 2y + z = 62x - 3y + 3z = 2x + y + z = 3

20. Solve
$$x - y = 2$$

 $2x^2 + 5y^2 = 23$.

21.
$$\begin{bmatrix} 5 & -6 & 4 \\ 7 & 4 & -3 \\ 2 & 1 & 6 \end{bmatrix} \times \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} 15 \\ 19 \\ 46 \end{bmatrix}$$
 find the values of x, y and z.