K21U 2132

Reg. No. : .....

Name : .....

III Semester B.Com. Degree (CBCSS – Sup./Imp.) Examination, November 2021
(2015 – 18 Admission)
General Course
3A12COM : NUMERICAL SKILLS FOR BUSINESS

Time : 3 Hours Max. Marks : 40

PART – A

Answer **all** the questions. **Each** carries ½ marks.

1. If $A = \begin{bmatrix} 6 & 8 \\ -1 & 5 \end{bmatrix}$, Adj A =

   a) $\begin{bmatrix} 5 & -8 \\ 1 & 6 \end{bmatrix}$ b) $\begin{bmatrix} -5 & 8 \\ -1 & -6 \end{bmatrix}$ c) $\begin{bmatrix} 1 & 6 \\ 5 & -8 \end{bmatrix}$ d) $\begin{bmatrix} 6 & 8 \\ 1 & 5 \end{bmatrix}$

2. $A \cap B = A$
   a) Commutative Law b) Associative Law
   c) Idempotent Law d) Distributive Law

3. $x = 4 + 8y$ is
   a) Quadratic b) Linear c) Exponential d) None

4. The ratio of Rs. 8 to 80 paise is
   a) 1 : 10 b) 10 : 1 c) 1 : 1 d) 100 : 1

PART – B

Answer **any four** questions. **Each** carries **one** mark.

5. 20 tons of iron costs Rs. 6,00,000. Find the cost of 560 kg of iron.
6. In what time will a sum of money double itself at 10% p.a. simple interest ?
7. What is truth table ?
8. What is skew symmetric matrix ?
9. If $A = \begin{bmatrix} 4 & 3 \\ 5 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 3 \\ 2 & 7 \end{bmatrix}$ find 3A – 2B.
10. Solve $7(x + 3) = 8(2 + x)$.

P.T.O.

PART – C

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

11. What are the laws in set operations ?

12. Cost of two types of pulses is Rs. 15 and Rs. 20 per kg, respectively. If both the pulses are mixed together in the ratio 2 : 3, then what should be the price of mixed variety of pulses per kg ?

13. A company is considering proposal of purchasing a machine either by making full payment of Rs. 4,000 or by leasing it for 4 years at an annual rent of Rs. 1,250. Which course of action is preferable if the company can borrow money at 14% compounded annually ?

14. In what time will a sum of Rs. 1,234 amount to Rs. 5,678 at 8% p.a. compound interest payable quarterly ?

15. If $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$ show that $A^2 - 4A - 5I = 0$.

16. Solve $8x + 7y = 10$

$11x = 10(1 - y)$

17. If $A = \{1, 4, 7, 10\}$, $B = \{2, 4, 5, 8\}$, $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ find $(A^c \cap B)$.

18. Explain different types of matrices with examples.

PART – D

Answer **any two** questions. **Each** carries **eight** marks.

19. Solve $x^4 - 10x^2 + 9 = 0$.

20. Find A^{-1} if $A = \begin{bmatrix} 3 & 5 & 7 \\ 2 & -3 & 1 \\ 1 & 1 & 2 \end{bmatrix}$.

21. Demand for goods of an industry is given by $pq = 100$ where p is the price and q is the quantity. Supply is given by the equation $20 + 3p = q$. What is the equilibrium price and quantity.