K16U 2138

Reg. No.: .....

Name: .....

III Semester B.Com. Degree (CBCSS – Reg./Supple./Imp.) Examination, November 2016
(2014 Admn. Onwards)
General Course
3A12 COM : NUMERICAL SKILLS FOR BUSINESS

Time : 3 Hours Max. Marks : 40

PART – A

Answer **all** questions. **Each** carries ½ mark.

1. The average of first 10 even numbers is
   a) 12 b) 15 c) 11 d) 10
2. If 4:5::12:x, then x is
   a) 15 b) 18 c) 20 d) 22
3. If $5^{x+5} = 1$, then x is
   a) –5 b) $\frac{-4}{5}$ c) 0 d) 1
4. If A is a set with n(A) = m, then the number of powerset is
   a) m^n b) 2^m c) 2 d) $4m^2$

(4×½=2)

PART – B

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

5. If one root of $x^2 - 6kx + 5 = 0$ is 5, then the value of k is
6. If A be a set, then
   i) $\phi \cap A$ is _____
   ii) $A \cap A$ is _____

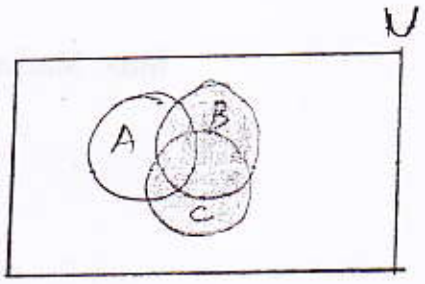
P.T.O.

7. If 15% of A = 20% of B, then A:B is

8. If $A = \begin{bmatrix} 2 & 5 \\ 3 & 1 \end{bmatrix}$ $B = \begin{bmatrix} 1 \\ 2 \end{bmatrix}$ then A:B is

9. If $0.6 \times A = 0.09 \times B$, then A:B is

10. The shaded portion in the given Venn diagram represents **(4×1=4)**



PART – C

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

11. The difference between the simple interest and the compound interest on Rs. 5,000 at 10% per annum for 3 years is

12. Solve $8x + 3y \leq 100$, $x \geq 0$, $y \geq 0$ graphically.

13. If $x = 7 - 4\sqrt{3}$, then $\sqrt{x} + \frac{1}{\sqrt{x}}$ is

14. If A = {1, 3}, B = {1, 5, 9}, C = {1, 3, 5, 7, 9} then

    i) ϕ _____ B

    ii) A _____ B

    iii) A _____ C

    iv) B _____ C

    v) $A \cap B =$ _____

    vi) $A \cup B =$ _____

15. If the angles of a triangle are in the ratio 3:4:5, then find all the angles of a triangle.

16. Find the rank of $A = \begin{bmatrix} 0 & 0 & 1 \\ 0 & 2 & 0 \\ 1 & 0 & 2 \end{bmatrix}$.

17. If $A + B = \begin{bmatrix} -2 & 6 \\ 6 & 2 \end{bmatrix}$ and $A - B = \begin{bmatrix} 4 & 0 \\ 0 & 4 \end{bmatrix}$ find A and B.

18. The compound interest on a sum at 12% per annum for 2 years is Rs. 1590. What will be the simple interest on this sum ? **(6×3=18)**

PART – D

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

19. If $A = \begin{bmatrix} 1 & 2 & -3 \\ 5 & 0 & 2 \\ 1 & -1 & 1 \end{bmatrix}$ $B = \begin{bmatrix} 3 & -1 & 2 \\ 4 & 2 & 5 \\ 2 & 0 & 3 \end{bmatrix}$ and $C = \begin{bmatrix} 4 & 1 & 2 \\ 0 & 3 & 2 \\ 1 & -2 & 3 \end{bmatrix}$ then compute A + B and B – C. Also verify that A + (B – C) = (A + B) – C.

20. Solve the following equations

$x + 2y + 5z = 10$

$x - y - z = -2$

$2x + 3y - z = -11$

21. If $A = \begin{bmatrix} 3 & 2 \\ 1 & 0 \end{bmatrix}$, $B = \begin{bmatrix} 4 & 5 \\ 0 & 1 \end{bmatrix}$, $C = \begin{bmatrix} 1 & -4 & 1 \\ -2 & 5 & -3 \\ 3 & 6 & 3 \end{bmatrix}$ verify that (AB) C = A(BC).

(2×8=16)