

SARDAR PATEL UNIVERSITY
B.COM SEMESTER - I EXAMINATION
SATURDAY 11th NOVEMBER 2017
10.00 A.M to 12.00 P.M
UB01CCOM05 : BUSINESS MATHEMATICS-I

Maximum Marks : 60

- Note: (1) Figure to the right indicate marks
 (2) Mathematical tables will be provided on request

- Q-1
- A) Define following with example : 4
 (i) Difference of two set (ii) Intersection of two set
- B) Solve given equation using Cramer's rule 5
 $5(x-1) + 3y = 0$; $7x + 2(y+2) = 0$
- C) If $U = \{x / 1 \leq x \leq 10, x \in N\}$; $A = \{1, 2, 3, 4\}$; $B = \{2, 4, 6, 8\}$ then verify 6
 (1) $(A \cup B)' = A' \cap B'$
 (2) $(A \cap B)' = A' \cup B'$

OR

- A) If $U = \{1, 2, 3, 4, 5\}$; $A = \{x: -1 < x < 5, x \in Z\}$; $B = \{2, 4, 5\}$; $C = \{1\}$ then 4
 find $A \cap B$, $B \times C$, B' , $A - C$
- B) Solve given equation using Cramer's rule 5
 $\frac{7}{x} + \frac{3}{y} = -4$; $\frac{3}{x} - \frac{4}{y} = -7$
- C) If $A = \{1, 2, 5, 6, 8\}$; $B = \{2, 4, 6, 10, 11\}$; $C = \{1, 2, 3, 5, 6, 11, 12\}$ then 6
 verify
 (1) $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$
 (2) $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$

Q-2

- A) Define following with examples : 4
 (i) Symmetric matrix (ii) Transpose of matrix.
- B) If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ then find $A^2 - 5A - 2I$ 5
- C) If $A = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 3 & 2 \\ 3 & 3 & 4 \end{bmatrix}$ then find inverse of A (A^{-1}) 6

OR