

[13/A5]  
EngSARDAR PATEL UNIVERSITY  
B.COM SEMESTER-I EXAMINATION26<sup>th</sup> OCTOBER 2018, FRIDAY

10:00 A.M to 12:00 P.M

UB01CCOM05 : BUSINESS MATHEMATICS-I

Q.1 (A) Give rules of Determinant. (04)

(B) Verify Demorgan's law for the following sets (06)

$$U = \{x/1 \leq x \leq 10, x \in N\}$$

$$A = \{x/4 < x < 7, x \in N\}$$

$$B = \{3, 5, 7, 9\}$$

(C) Solve the following equations using Cramer's rule. (05)

$$3x - 4y - 1 = 0$$

$$-2x + 5y + 3 = 0$$

OR

Q.1 (A) Define (04)

(1) Union of sets

(2) Intersection of sets

(B) If  $A=\{1, 2\}$ ,  $B=\{2, 3\}$ ,  $C=\{3, 5\}$  then prove that (06)  
 $A \times (B \cup C) = (A \times B) \cup (A \times C)$ (C) If  $\begin{bmatrix} 11 & 40 & 28 \\ 3 & 12 & 8 \\ A & 2 & 2 \end{bmatrix} = 0$ , find the value of A (05)

Q.2 (A) Write a note on matrix multiplication. (04)

(B) If  $A = \begin{bmatrix} 4 & 7 & 0 \\ -5 & 0 & 9 \\ 1 & 1 & 1 \end{bmatrix}$  and  $B = \begin{bmatrix} 2 & 4 & 5 \\ 6 & 7 & 8 \\ 3 & 2 & 1 \end{bmatrix}$  find (1)  $A + 2B^T$  (2)  $3A - 4B$  (05)

(1)

(P.T.O.)