

**SMT.S.I.PATEL.IPCOWALA COLLEGE OF COMMERCE,PETLAD**

**INTERNAL EXAMINATION - B.COM SEM -1**

**UB01CCOM 23 BUSINESS MATHEMATICS & STATISTICS-1**

**DATE:27-09-2018 ; Thursay TIME: 8-00 to 9-00 TOTAL MARKS:30**

**Que.1**

(a) Define determinant of second order and write any five rules of it. (5)

(b) Solve following equations by Cremer's rule (5)

$$2x - 6y = 5xy; 6x - 5y = 2x$$

(c) If  $A = \{1, 4\}$ ,  $B = \{4, 5\}$ ,  $C = \{5, 7\}$  then prove that (5)

$$1. A \times (B \cap C) = (A \times B) \cap (A \times C)$$

**O.R**

(a) Explain with one illustration: (5)

Null set, Complement of a set, Universal set

(b) If  $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$  given then verify for  $A^2 - 4A + 5I = 0$  (5)

(c) Solve the following equations using Inverse matrix method. (5)

$$2x + 5y = 16; y + 3x = 11$$

**Que.2**

(a) Explain with one illustration: (6)

Identity matrix, Equal matrix and Symmetric matrix.

(b) Find the estimate of premium at the age of 36 years for the following data. (9)

Age ( In years)	30	35	40	45	50
Premium in Rs.	33	38	42	47	52

**O.R**

**Que.2**

(a) If  $A = \begin{bmatrix} 2 & 1 & -1 \\ 1 & 0 & -1 \\ 1 & 1 & 2 \end{bmatrix}$  than find inverse of A. (6)

(b) Estimate the production of 1983 from the following data: (9)

Year	1981	1982	1984	1985	1986	1987
Production In tones	160	172	179	182	195	210