

**SMT. S. I. PATEL IPCOWALA COLLEGE OF COMMERCE, PETLAD**  
**B.COM SEM-II BUSINESS MATHEMATICS & STATISTICS-II UB02CCOM 23**

**DATE-20-02-2019, WEDNESDAY TIME: 8:00 TO 9:00 TOTAL MARKS: 30**

**Que.1**

(a) Obtain the equation of line having slope  $m$  and passing through a given point.

(b) 1. Find the equation of line with slope 3 and passing through (2,3).

2. Prove that (1,-1), (-2,2), (4,8) and (7,5) form a rectangle.

**O.R**

(a) Find equation of line passing through the point of intersection of the lines  $5x+2y-11=0$  and  $3x-y+11=0$  and it is perpendicular to  $4x-3y+2=0$ .

(b) Obtain basic feasible solution of the following Transportation Problem by

(1) North west corner Method and (2) Vogel's approximation Method.

Origins	1	2	3	4	Supply
A	19	30	50	10	7
B	70	30	40	60	9
C	49	8	70	20	18
Demand	5	8	7	14	34

**Que.2**

(a) Write limitations and uses of Linear Programming.

(b) Find maximum and minimum values of  $y=x^3+x^2-5x+7$ .

**O.R**

(a) Write rules of differentiation.

(b) Minimize objective function  $Z=10x+5y$  under the following constraints:

$$0 \leq x \leq 30, 0 \leq y \leq 15, 3x+5y \leq 150, 5x+4y \geq 100.$$