Roll No.: _____ **Enrolment No._____**

PARUL UNIVERSITY

FACULTY OF PHARMACY

B.PHARM FIRST SEMESTER

SECOND INTERNAL THEORY EXAMINATION: 2022-23

Subject Name: Remedial Mathematics
Subject Code: BP106RMT **Date: 27/2/2023**
Time: 12:00 To 1:15 **Total Marks: 30**

Instructions:

1. **Make suitable assumptions wherever necessary.**
2. **Figures to the right indicate maximum marks.**

			CO	BL
Q.2	**Long Answer: (Answer Any one)**	**10 Marks (1 X 10 =10)**		
	1) Solve : 4x – 3y + z = 5, 3x + 2y + z = 6, x + 2y + 3z = 7 using matrix method		**Co2**	**B1**
	2) Write division rule for derivative and find derivative of (1+sinx) / (1 – sinx) with respect to x.		**Co3**	**B2**
Q.3	**Short Answer: (Answer Any Two)**	**10 Marks (2 X 5=10)**		
	1) Find characteristic roots of $\begin{bmatrix} 2 & 5 \\ 1 & 5 \end{bmatrix}$		**Co2**	**B1**
	2) If $A = \begin{bmatrix} 1 & 2 & 0 \\ -3 & 0 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 0 & -1 & -3 \\ 3 & 2 & 4 \end{bmatrix}$ then find the solution of the matrix equation 2(X + A) + 3B = 0		**Co2**	**B1**
	3) If $A = \begin{bmatrix} 4 & 1 & 3 \\ 2 & 0 & 5 \\ 1 & 3 & 0 \end{bmatrix}$., $B = \begin{bmatrix} 2 & -1 & 0 \\ 0 & 4 & 3 \\ 2 & 1 & 5 \end{bmatrix}$ then verify $(A+B)^T = A^T + B^T$		**Co2**	**B1**
	4) The total number of units of three products P = 9, Q = 52, R = 0 that are processed by three machine A, B and C is given by matrix $\begin{array}{c} \\ P \\ Q \\ R \end{array}\begin{array}{c} \begin{array}{ccc} A & B & C \end{array} \\ \begin{bmatrix} 1 & 1 & 1 \\ 2 & 5 & 7 \\ 2 & 1 & -1 \end{bmatrix} \end{array}$ Determine the time taken by each machines to process product P, Q and R.		**Co2**	**B3**
	5) Write derivative of any five standard function with respect to x.		**Co3**	**B2**
	6) If $y = \log\left(\sqrt{\frac{x+a}{x-a}}\right)$ then find dy/dx		**Co3**	**B2**