SHREE H.N.SHUKLA INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH, RAJKOT

B.PHARM SEMESTER-I, INTERNAL EXAM (2022-23)

Subject code: BP107TT | **Date: 15/04/2023**

Subject Name: REMEDIAL MATHEMATICS | **Total Marks: 15**

Time: 11:00 AM TO 11:45 AM | **Enroll. No:**

ANSWER THE FOLLOWING QUESTIONS:

Q.1 If $A = \begin{bmatrix} 3 & 8 & 11 \\ 6 & -3 & 8 \end{bmatrix}, B = \begin{bmatrix} 1 & -6 & 15 \\ 3 & 8 & 17 \end{bmatrix}$ then find $7A + 5B$. **(2)**

Q.2 Solve the linear system by using Matrix method **(5)**

$x + 2y + 3z = 1, 3x - y + z = 2, 4x + 2y + z = 3.$

OR

Differentiate the following functions with respect to x:

(i) $(e^x + 5)(\sin x + \log x)$

(ii) $\sqrt{x} + \frac{5}{\cos x} - \frac{1}{\cot x} - 8 + \log\left(\frac{1}{\sqrt{x}}\right)$

Q.3 Find the maximum and minimum value of $f(x) = 2x^3 - 21x^2 + 36x - 20$. **(3)**

Q.4 Give the definition of Row matrix and Zero matrix with examples. **(2)**

Q.5 Find the following determinants: **(3)**

(i) $A = \begin{bmatrix} 2 & -1 & 3 \\ 1 & 3 & -4 \\ 5 & -5 & 4 \end{bmatrix}$ (ii) $A = \begin{bmatrix} 22 & 19 & 16 \\ 14 & 11 & 8 \\ 11 & 8 & 5 \end{bmatrix}$