JHARKHAND Rai University RANCHI ACCREDITED BY NAAC

End Semester/Reappear (Semester I) Examination March 2022

Programme: B. Pharm **Full Marks: 35**

Subject: Remedial Mathematics **Time: 2 Hrs.**

Subject Code: BP106RMT

Enrollment No: _____

Section I

1. Short Answer type questions. Answer any five. **5 x 5 = 25**

a. Show that the line joining the point (2, – 5) and (– 2, 5) is perpendicular to the line joining the points (6, 3) and (1, 1).

b. Find dy/dx when x = a (t + sint) and y = a (1 – cost).

c. Solve for y in term of x, $\log 2^x + \log 2^y = 1$

d. Evaluate: $\begin{vmatrix} 1 & 1 & 1 \\ x & y & z \\ x^2 & y^2 & z^2 \end{vmatrix}$

e. Evaluate $\int \left(5x^2 + 2x^{-5} - 7x + \frac{1}{\sqrt{x}} + \frac{5}{x}\right) dx$

f. Resolve $\frac{2x+3}{x^2-2x-3}$ into partial fraction.

g. If $y = e^x \log(\sin 2x)$, find dy/dx

Section II

Long Answer type questions. Answer any one. **1 x 10 = 10**

2. Solve the given system of equation, using matrix method;
   x + y + z = 6, x – y + z = 2, 2x + y – z =1.

3. Find inverse Laplace transform of $\left(\frac{2s+1}{(s-1)(s-2)(s-3)}\right)$

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