

[LJ 806]

OCTOBER 2016

Sub. Code: 3806

PHARM. D DEGREE EXAMINATION
(2009-2010 Regulation)
FIRST YEAR
PAPER VI – REMEDIAL MATHEMATICS

*Q.P. Code: 383806***Time : Three hours****Maximum : 70 Marks****I. Elaborate on:****(4 x 10 = 40)**

1. Solve. $2x + y + z = 5$, $x + y + z = 4$, $x - y + 2z = 1$.
2. If $\cos A = \frac{-12}{13}$ and $\cos B = \frac{24}{7}$. Find $\sin (A+B)$ and $\cos (A+B)$.
3. Solve. $\frac{dy}{dx} + y \cot x = e^x \operatorname{cosec} x$.
4. a) Solve. $\frac{dy}{dx} = \frac{2x}{y}$
b) Differentiate. $x^2 e^x$.

II. Write notes on:**(6 x 5 = 30)**

1. If $A = \begin{vmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{vmatrix}$ Prove that $A^2 - 4A - 5I = 0$.
2. Integrate. $\int x \log x \, dx$.
3. Differentiate: $x^2 \sin x \log x$.
4. Solve. $(D^2 - 4D + 3)y = 0$
5. Find the equation of the line passing through the points $(-1, -2)$ and $(-5, 2)$.
6. Integrate. $\int_0^{\frac{\pi}{2}} \frac{\cos^2 x}{1 + \sin x} \, dx$.
