

[LI 806]

APRIL 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. Find the Inverse of $\begin{bmatrix} 3 & 1 & -1 \\ 2 & -2 & 0 \\ 1 & 2 & -1 \end{bmatrix}$
2. Solve: $\frac{dy}{dx} + y \cot x = 2 \cos x$.
3. a) $y = x^2 \sin x$. Prove that $x^2 y_2 - 4xy_1 + (x^2 + 6)y = 0$
b) Differentiate. $x^2 \log x \sin x$.
4. a) If $\tan A = \frac{5}{6}$ and $\tan B = \frac{1}{11}$. Show that $(A + B) = \frac{\pi}{4}$
b) Elaborate. $\int x \cos x \, dx$

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

1. If $A = \begin{bmatrix} 0 & 2 \\ 1 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & -2 \\ 4 & -1 \end{bmatrix}$ Find AB and BA.
2. Evaluate. $\int x e^x \, dx$.
3. Differentiate. $x^3 e^x \log x$.
4. Find the Laplace Transform $t^2 + 3t + 5$.
5. Find the equation of the line passing through the point (-1, -2) and (-5, 2).
6. Solve. $(D^2 - 9D + 20)y = 0$
