

[LL 806]

OCTOBER 2017

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. If $A = \begin{bmatrix} 3 & 1 & 2 \\ 4 & 9 & 8 \\ 2 & 5 & 6 \end{bmatrix}$ and $B = \begin{bmatrix} 9 & 2 & 5 \\ 0 & 3 & -1 \\ 4 & -6 & 2 \end{bmatrix}$

Find (i) AB (ii) BA (iii) 3(A+B) and (iv) 3A+3B.

2. If A and B be acute angle with $\cos A = 5/13$ and $\sin B = 3/5$. Find $\sin(A+B)$, $\sin(A-B)$, $\cos(A+B)$ and $\cos(A-B)$.

3. Evaluate: $\int x \cdot \sin 2x \cdot dx$.

4. Find the equation of the straight line which passes through the point of intersection of the two lines $5x-6y-1=0$ and $3x+2y+5=0$ and is perpendicular to the line $3x-5y+11=0$.

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

1. Add the Matrix:

$$\begin{bmatrix} 2 & 4 \\ 3 & 1 \\ 4 & 5 \end{bmatrix} + \begin{bmatrix} 3 & 2 \\ 1 & 1 \\ 5 & 3 \end{bmatrix} \text{ and } \begin{bmatrix} 1 & 3 \\ 2 & 3 \\ 4 & 6 \end{bmatrix}$$

2. Integrate: $e^{\cos x} \cdot \sin x \cdot dx$

3. Find: $\frac{dy}{dx} = \frac{3x^2 + 4x - 4}{2y - 4}$

4. Evaluate: $\frac{5 \sin^2 30 + \cos^2 45 + 4 \tan^2 60}{2 \sin 30 \cdot \cos^2 45 + \tan 45}$.

5. Solve: $\frac{d^2y}{dx^2} + 4 \frac{dy}{dx} + 4y = 2e^{-3x}$.

6. Prove that $\cos^4 A - \sin^4 A = 2\cos^2 A - 1$.
