[LK 806] MAY 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. Using cramers rule solve.
   2x - y + 3z = 9, x + y + z = 6, x – y + z = 2

2. a) Solve. $(D^2 - 5D + 6)\, y = e^{4x}$

   b) Solve. $\frac{dy}{dx} = \frac{1 + \cos x}{1 + \cos y}$

3. a) Integrate. $\int_0^{\frac{\pi}{2}} \sin^2 x \, dx$.

   b) Evaluate. $\int \frac{\cos^2 x}{1 - \sin x} dx$.

4. If cos A = $\frac{4}{5}$ and sin B = $\frac{5}{13}$. Find sin (A+B) and cos (A-B)

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

1. If A = $\begin{bmatrix} 2 & 1 \\ 3 & 2 \end{bmatrix}$ and B = $\begin{bmatrix} 2 & -1 \\ -3 & -4 \end{bmatrix}$ Verify $(AB)^T = B^T A^T$.
2. Solve. $\frac{dy}{dx} + y \sin x = 0$
3. If x = at^2 and y = 2 at. Find $\frac{dy}{dx}$.
4. Evaluate. $\int_1^2 (x^2 + 5x + 6) dx$.
5. Differentiate. $\frac{1 - \sin x}{1 + \sin x}$.
6. Find the area of the triangle (1, -2) (2, 3) and (-4, 5)

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