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[LG 806]

APRIL 2015

Sub. Code: 3806

Maximum: 70 marks

 $(4 \times 10 = 40)$

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

O.P. Code : 383806

Time : Three hours

I. Elaborate on :

1. Solve by Cramer's rule

x + 2y - z = -3, 3x + y + z = 4, x - y + 2z = 6

- 2. a) Find $\frac{dy}{dx}$, if $x = a \cos^3 t$, $y = b \sin^3 t$
 - b) y = x.cosx Prove that $x^2y_2-2xy_{1+}(x^2+2)y = 0$
- 3. Find the equation of the circle passing through the points (5,3), (2,4), (-3,-1)
- 4. a) $\frac{dy}{dx} \frac{3}{2}y = x^3 e^{2x}$ b) $\int_0^{\pi/2} \frac{\sin^2 x}{1+\cos x} dx$

II. Write notes on :

- Ranker.com 1. Find the angle between the lines 2x+y-7 = 0 and x-2y+4 = 0
- 2. Evaluate $\int \frac{2x-3}{x^2+3x-18} dx$
- 3. Solve $\tan x \sec^2 y dy + \tan y \sec^2 x dx = 0$
- 4. $A = \begin{bmatrix} 1 & 2 \\ 1 & 1 \end{bmatrix} B = \begin{bmatrix} 0 & -1 \\ 1 & 2 \end{bmatrix}$ Find AB and BA.
- 5. Find the Laplace Transform of $t^2 + 3t + 5$
- 6. Find the area of the triangle whose vertices are (2,3), (4,-5), and (-1,3)

 $(6 \times 5 = 30)$