THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

**[LN 806]** OCTOBER 2018 **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 A = $\begin{matrix} -1 & 2 & 3 \\ 0 & 1 & 2 \\ -2 & 3 & 0 \end{matrix}$

2. Show that $x^2 - y^2 + x - 3y - 2 = 0$ represent a pair of straight lines and also find the angle between them.

3. Prove that $\cos 20^0 \cos 40^0 \cos 80^0 = \frac{1}{8}$

4. Solve : $(D^2 + 14D + 49)\, y = e^{-7x} + 4$

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

1. Find $\frac{dy}{dx}$ if $x = at^2$, $y = 2at$

2. Solve : $(D^2 + D + 1)\, y = 0$

3. Evaluate : $\int_2^5 (3x^2+4)\, dx$

4. Find the determinant value of A = $\begin{matrix} 1 & 7 & 5 \\ 2 & 6 & 3 \\ 4 & 8 & 9 \end{matrix}$

5. Find $L(e^{-2t}\cos 3t)$.

6. Find the equation of circle with center (1, –2) and passing through the point (4, 1).

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