

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

[PHARMD 0122]

JANUARY 2022  
(OCTOBER 2021 EXAM SESSION)

Sub. Code: 3806

PHARM. 'D' DEGREE EXAMINATION  
FIRST YEAR (2009-2010 Regulation)  
PAPER VI – REMEDIAL MATHEMATICS  
*Q.P. Code : 383806*

Time : Three hours

Answer ALL Questions

Maximum : 70 Marks

I. Elaborate on:

(4 x 10 = 40)

1. Find  $A^{-1}$ , if  $A = \begin{bmatrix} 0 & 1 & -1 \\ 4 & -3 & 4 \\ 3 & -3 & 4 \end{bmatrix}$ .
2. If  $a=2$ ,  $b=\sqrt{6}$ , and  $c=\sqrt{3}-1$  solve the triangle.
3. Differentiate  $(x+2)^3$ .
4. Integrate  $e^x \sin^x$ .

II. Write notes on:

(6 x 5 = 30)

1. Find the rank of the matrix  $A = \begin{bmatrix} 2 & 3 & 4 \\ 3 & 5 & 7 \\ 4 & 6 & 8 \end{bmatrix}$ .
2. The normal at the point  $(at_1^2, 2at_1)$  meets the parabola again at the point  $(at_2^2, 2at_2)$ . Prove that  $t_2 = -t_1 - 2/t_1$ .
3. Differentiate  $(x+a)(x+b)$ .
4. Integrate  $\int \sin^2 x \, dx$ .
5. Solve  $(D^2 + 2D + 1)y = 0$ .
6. Find  $L[\cos^2 t]$ .

\*\*\*\*\*