

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

[PHARMD 1122]

NOVEMBER 2022
(OCTOBER 2022 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. Solve the $x + y + z = -1$, $x + 2y + 3z = -4$, $x + 3y + 4z = -6$.
2. Prove that $\tan 13A - \tan 9A - \tan 4A = \tan 13A \tan 9A \tan 4A$.
3. If the point (x, y) is equidistant from the point $(a+b, a-b)$ and $(a-b, a+b)$.
Prove that $bx=ay$.
4. (a) Integrate $\int x^2 e^x dx$.
(b) Differentiate $3x^2 e^x + 7$ with respect to x .

II. Write notes on:

(6 x 5 = 30)

1. Find the value of a, b, c, d that satisfying the matrix relationship.

$$\begin{pmatrix} a+2 & 2b+4 \\ c+3 & 4a+4 \\ d-3 & 3d \end{pmatrix} = \begin{pmatrix} -0 & -6 \\ -3 & 2a \\ 2d+4 & -21 \end{pmatrix}$$

2. Prove that $\cos^4 A - \sin^4 A = 2\cos^2 A - 1$.
3. $2x+3y+7=0$ and $2x+3y-13=0$ are two straight lines. Are they parallel to each other?
4. Evaluate $\int \frac{dx}{9x^2 + 6x + 5}$

5. If $y = \sin x + \tan x \cot x + e^x + \log ax$, then find dy/dx .

6. Solve (a) $(D^2 - 4D + 3)y = 0$ (b) $L [e^{-2t} \cos 3t]$.
