

[LD 806]

OCTOBER 2013

Sub. Code: 3806

PHARM. D DEGREE EXAMS

FIRST YEAR

PAPER VI – REMEDIAL MATHEMATICS

Q.P. Code : 383806

Time : 3 hours

Maximum : 70 marks

I. Elaborate on :

(2x20=40)

1. Prove that

$$\begin{vmatrix} 1/a^2 & bc & b+c \\ 1/b^2 & ca & c+a \\ 1/c^2 & ab & a+b \end{vmatrix} = 0.$$

2. Solve: $\frac{d^2y}{dx^2} + a^2y = \sec ax$.

II. Write notes on :

(10x3=30)

1. If $A = \begin{vmatrix} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{vmatrix}$ and $B = \begin{vmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{vmatrix}$

Then show that $|AB| = |A| |B|$

2. Find the angle between the straight lines $3x - 2y + 9 = 0$ and $2x + y - 9 = 0$.

3. Find the equation of the circle passing through the points (0,1), (2,3) and (-2,5).

4. Integrate:

$$\int \frac{dz}{z \log z}$$

5. Prove that $\cos^4 A - \sin^4 A = 1 - 2 \sin^2 A$.

6. Evaluate:

$$\int_0^1 x e^x dx$$

7. Write any two properties of definite integral?

8. Find the Laplace transform $F(t) = \sin^2 3t$.

9. Solve: $(D^2 + 4)y = x \sin x$.

10. Find the general solution of $y = xp + a/c$.
