

[LC 806]

APRIL 2013

Sub. Code: 3806

PHARM. D DEGREE EXAMS

FIRST YEAR

PAPER VI – REMEDIAL MATHEMATICS

Q.P. Code : 383806

Time : 3 hours

Maximum : 100 marks

I. Elaborate on :**(2x20=40)**

1. If $A = \begin{vmatrix} -1 & 4 \\ 2 & -3 \end{vmatrix}$ $B = \begin{vmatrix} -4 & 1 \\ 0 & 3 \end{vmatrix}$

Verify that $(A+B)^t = A^t + B^t$ 2. Let $P(at^2, 2at)$ and $Q(a/t^2, -2a/t)$ and $S(a,0)$ be any three points, show that

$$\left\{ \frac{1}{SP} + \frac{1}{SQ} \right\} \text{ Is same for all values of } t.$$

II. Write notes on :**(10x6=60)**

1. Find the Determinants $A = \begin{vmatrix} -1 & 2 & 3 \\ 0 & 1 & 2 \\ -2 & 3 & 0 \end{vmatrix}$

2. Show that $(0, -1)$, $(2,1)$, $(0,3)$ and $(-2,1)$ are the vertices of a square.

3. Find the value of $\left\{ \frac{\sin(\alpha+\beta)}{\sin(\alpha+\beta)} \right\}$, given that $\tan\alpha = 2 \tan\beta$

4. Evaluate : i) $\sin 78^\circ \cos 18^\circ - \cos 78^\circ \sin 18^\circ$ (ii) $\cos 48^\circ \cos 12^\circ - \sin 48^\circ \sin 12^\circ$ 5. Differentiate $(\log x)^x$ using logarithmic differentiation.6. Differentiate $Y = (x+1)(2x+3)$ 7. Integrate $x e^x dx$ 8. Solve: $\sin x \cos y dy + \cos x \sin y dx = 0$ 9. Find laplace transform: $\sin \alpha t \cos \beta t$.10. Solve $(D^2 - 13D + 12)y = e^{-2x}$
