Code No: B1202/R10 **R10**

I B.Pharmacy II Semester Supplementary Examinations, Feb. 2015
MATHEMATICS-II

Time: 3 hours **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) If $y = secx$, $x \in R - \{(2n+1)\frac{\pi}{2} : n \in Z\}$ then prove that $\frac{dy}{dx} = seecx\ tanx$
   (b) Find the maxima and minima of the function $f(x) = \frac{logx}{x}$ [7+8]

2. (a) *Find the derivative of* $y = cosec(x^5)$
   (b) *Find the derivative of* $y = log\sqrt{tanx}$ [7+8]

3. (a) *Find* $\int \frac{1+cos^2x}{1-cos2x}dx$
   (b) Find the area bounded by the curve xy=16, the x-axis and the ordinates x=4 ,x=8. [7+8]

4. (a) *Evoluate* $\int e^{ax}cosbx\ dx$
   (b) Find the area between the ellipse $\frac{x^2}{9} + \frac{y^2}{16}$ and the line $\frac{x}{5} + \frac{y}{4} = 1$ [7+8]

5. (a) Eliminate C from the equation $y = Ce^{\sin^{-1}x}$
   (b) solve $xy^1 + y + 4 = 0$ [7+8]

6. (a) Solve $\frac{dy}{dx} - x\tan(y-x) = 1$
   (b) Solve $(x^2 - 2xy + 3y^2)\,dx + (y^2 + 6xy - x^2)\,dy = 0$ [7+8]

7. (a) Find L [$cosh^2(2t)$]
   (b) Find L [$sinhat - sinat$] [7+8]

8. (a) Find L [$(t+3)^2 e^t$]
   (b) Find L [$e^{-t} cos^2t$] [7+8]

⋆ ⋆ ⋆ ⋆ ⋆