Code No: B1202/R10 **R10**

I B.Pharmacy II Semester Regular Examinations, Oct/Nov 2013
MATHEMATICS-II

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) *Find the derivative of* $x = \log\left(1+\sqrt{y}\right)$
   (b) Find the maximum of the $3cosx + \sqrt{3}sinx$, $0 < x < \pi$

2. (a) *Find the derivative of* $y = sin^2(cos3x)$
   (b) *If* $u = \log(x^2+y^2)$ *find* $\frac{\partial u}{\partial x}$, $\frac{\partial u}{\partial y}$

3. (a) *Find* $\int (sinx + x^3)\,dx$
   (b) Find the area enclosed between the curves $y^2=4x$ and the line $y=2x-4$.

4. (a) *Evoluate* $\int \frac{dx}{1+cotx}$
   (b) Find the area between the curves $x^2=4y$ and $x=4y-2$

5. (a) Form the differential equation from the relation $y = e^x\ [A\ cosx + B\ six]$ when A,B are arbitrary constants
   (b) solve $[1+e^{x/y}]\,dx + e^{x/y}[1-\frac{x}{y}]\,dy=0$

6. (a) Solve $(x+y)^2\ \frac{dy}{dx} = a^2$
   (b) Solve $\frac{dy}{dx} = \frac{y}{x+\sqrt{xy}}$

7. (a) Find L [$sin2t\ cos3t$]
   (b) Find L [$\frac{1}{\sqrt{t\pi}}$]

8. (a) Find L [$cos^3\ 3t$]
   (b) Find L [$sin^3\ 2t$]

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