Nepal College of Information Technology

**Unit Test**

Fall 2012

Program : BE IT Time : 2 hrs

Semester : (I) FM : 70

Subject : Engineering Math-I PM : 35

* *Candidates are requested to give their answer as far as practicable in their own words.*
* *The figure in the margin indicates the full marks*
* ***Attempt ALL question***

1. Integrate any three: 3\*5

a) 

b) 

c) 

d)  (by summation method)

2. Evaluate 3\*5

a) 

b) 

c) 

3. a) Find the area bounded by the curve

Y=x2+1 and the line y = -x+3 7

OR

Find the area bounded by the curve y=x3-12x and the x-axis.

b) Find the volume of the solid in the region in the first quadrant bounded above by y=x2 below by x=axis and on the right by the line x=1 about the line x= -1. 8

4. a) Find the volume of solid generated by revolving the region bound by the line joining origin and point (a,b), and the line x=a about x-axis. 7

b) Evaluate 

i) trapezoid Rule

ii) Simpson’s Rule

and compare the result with exact value. 8

5. Answer following 2\*5

a) integrate 

b) integrate 

c) 

d) 

e) Find the arch length of the curve

 from x=0 to x=3