MTH302 Business Mathematics and Statistics
Mid Term Examination – Spring 2006 (session I)
Time Allowed: 90 Minutes

Please read the following instructions carefully before attempting any of the questions:

1. Attempt all questions. Marks are written adjacent to each question.

2. Do not ask any questions about the contents of this examination from anyone.

   a. If you think that there is something wrong with any of the questions, attempt it to the best of your understanding.

   b. If you believe that some essential piece of information is missing, make an appropriate assumption and use it to solve the problem.

   c. Write all steps, missing steps may lead to deduction of marks.

   d. Attempt all the questions on Excel sheet and use only one excel sheet to solve all the questions. More then one sheets are not acceptable

   e. Solve the questions on excel sheet in usual manner i.e. from upward to downward not from left to right.

**WARNING: Please note that Virtual University takes serious note of unfair means. Anyone found involved in cheating will get an `F` grade in this course.

Question No. 1	Marks : 5

Ray's Appliances bought a Motor bike for Rs. 60000.To make the desired profit; he needs a 40%
Markup on Cost. What is Ray's Rs. Markup? What is his Selling price?

Question No. 2	Marks : 10

If Fixed Cost = Rs 3450, Sale =S = Rs200, Capacity = 500 units. Determine the BEP as % of

capacity if FC is increased to Rs 5500 and VC is reduced to 50% of S.

Question No. 3   **Marks : 10**

a)   Find the net purchase price of an office table listed at Rs. 6000 and sold with trade discounts of   20% and 10%   **Marks 5**

b)   Find the Inverse of following metrics using suitable Excel formula

$$A = \begin{pmatrix} 1 & 0 & 1 \\ 2 & 1 & 0 \\ 1 & -1 & 1 \end{pmatrix}$$ **Marks 5**

Question No. 4   **Marks : 10**

a) Find the compound interest when Rs 24000 is invested for 2 years and 4 months at 10% compounded annually.

Marks 5

b) The annual rate of interest is 15%. The period of the loan is 8 years. The present value is Rs 35000 Calculate using CUMIPMT Excel function total interest paid in the second year of payments, for Periods 9 through 15.What is the interest paid in a single payment in the first month?
Marks 5

Question No. 5   **Marks : 10**

a). Calculate XIRR the internal rate of return: **Marks 5**

January 1, 2007	-25,000
March 12, 2007	10,500
October 3, 2007	5500
February 1, 2008	2500
May 10, 2008	2000

b) Use EXCEL function NPV to find the net present value of an investment, when annual discount rate is 15%, initial cost of investment one year from today is 225000. Return from first year is Rs. 35000; Return from second year is 45000; Return from third year is 55000.

Marks 5