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Virtual University	**MIDTERM EXAMINATION** **SEMESTER fall 2005** **MTH302 –Business Mathematics & Statistics**	**Total Marks: 40** **Duration:90mins**

StudentID/LoginID	
Name	
PVC Name/Code	
Date	**21st January, 2006**

Maximum Time Allowed: (One& half hour)

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.

For Teacher's use only

Question	Q1	Q2	Q3	Q4	Total
Marks					

Question No: 1 **Marks 15**

Short Questions:

Uses, suitable **excel function**, to complete these short questions.

i) Find the utility and provident fund, if the basic salary is 35000 **(3.5)**

ii) Find average using Excel Function of these values 51,27,9,17 **(3.5)**

iii) Calculate the determinant of $\begin{pmatrix} 1 & 3 & 2 \\ 3 & 2 & 0 \\ 4 & 5 & 6 \end{pmatrix}$ **(4)**

iv) Ali buy ice cream for 10 Rs, he wants to sell to his friend for 15 Rs, What is the markup in Rs?

(4)

Question No: 2 **Marks: 10**

If FC=4345Rs, VC=Rs 165, S=194, Capacity=410 units. What unit sale will generate NI of Rs. 2500? Note that unit sold is 141.

Question No: 3 **Marks:10**

Find multiplication of A & B and inverse of the matrix A, written below.

$$A = \begin{pmatrix} 2 & 0 & 1 \\ 3 & 4 & 5 \\ 1 & 3 & 1 \end{pmatrix} \quad , B = \begin{pmatrix} 1 & 0 & 1 \\ 0 & 4 & 0 \\ 2 & 1 & 3 \end{pmatrix}$$

Question No: 4 **Marks : 5**

The annual rate of interest is 9%. The period of the loan is 27 years. The present value is, 1150000 Rs. Calculate using CUMIPMT Excel function total interest paid in the second year of payments, for periods 10 through 25.What is the interest paid in a single payment in the first month?