

	FINAL TERM EXAMINATION SPRING 2006 MTH302 - BUSINESS METHAMATICS & STATISTICS (Session - 2)	Marks: 50 Time: 150min								
<p>StudentID/LoginID: _____</p> <p>Student Name: _____</p> <p>Center Name/Code: _____</p> <p>Exam Date: Saturday, August 26, 2006</p>										
<p>Please read the following instructions carefully before attempting any of the questions:</p> <ol style="list-style-type: none"> 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. <ol style="list-style-type: none"> 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. You have to solve the questions on <u>Excel sheet</u> and don't use more then one Excel sheets to solve all the questions. e. Solve the questions on excel sheet in usual manner i.e. from upward to downward not from left to right. <p>**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.</p>										
For Teacher's use only										
Question Marks	1	2	3	4	5					Total

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Question No: 1 (Marks: 10)

- a) Use EXCEL function NPV to find the net present value of an investment, when annual discount rate is 12%, initial cost of investment one year from today is 50,000. Return from first year is Rs. 5000; Return from second year is 7500; Return from third year is 10,000.
- b) Determine whether by using EXCEL functions $A * B = B * A$ by the following Matrices.

$$\begin{pmatrix} 1 & 2 & 5 \\ -1 & 1 & 0 \\ 2 & 3 & 1 \end{pmatrix}$$

A =

$$\begin{pmatrix} 2 & -1 & 3 \\ 1 & 0 & 5 \\ 0 & -2 & 1 \end{pmatrix}$$

B =

Question No: 2 (Marks: 10)

For the distribution, calculate the Mean, The Mean Deviation from Mean, Median, And the Mean deviation from the Median.

X	f
1	2
2	8
3	24
4	52
5	31
6	11

Question No: 3 (Marks: 10)

- a) Find the Standard deviation for the following grouped data using EXCEL function.

Marks	Frequency
30-34	3
35-39	6
40-44	8
45-49	15
50-54	19
55-59	9
60-64	4

- b) A committee of 4 must be chosen from 3 women and 4 men. Calculate.

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- i. In how many ways the committee can be chosen.
- ii. In how many ways 2 men and 2 women can be chosen.

Question No: 4 (Marks: 10)

a) Find the Covariance and Coefficient of correlation for the data given below using EXCEL functions

X	Y
57	71
62	70
60	66
57	70

b) Find 30th and 70th percentile from the given data.

59, 58, 57, 56, 55, 54, 53, 52, 51, 50, 49, 48, 47

Question No: 5 (Marks: 10)

a) In a college 40% students are girls. How likely is that a random sample of 200 students contains 40 or more girls?

b) Calculate the cumulative Poisson probability with the following terms.
Number of events = 15, expected mean = 20