



FINAL EXAMINATION
SEMESTER Fall 2004
Subject code – MTH 302 (Fall-2004)

Total Marks: 50
Duration:150mins

StudentID/LoginID	
Name	
PVC Name/Code	
Date	

Maximum Time Allowed: (2.5 Hours)

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. You have to solve the questions on Excel sheet and don't use more than two Excel sheets to solve all the questions.

****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	Q5	Q6	Q7	Q8	Q9	Total
Marks										

Question No: 1

Marks: 5

Class marks for grouped data as well as frequency against each class interval are given in the following table. Calculate using EXCEL total marks and mean.

Marks		Frequency(f)
30	34	2
35	39	6
40	44	7
45	49	16
50	54	20
55	59	8
60	64	3

Question No: 2

Marks: 5

For X and Y data calculate the StDev of X and Y, Cov(X,Y) and correlation between X and Y. Use only basic formulas in the Worksheet.

X	Y
6	120
12	200
8	150
14	170
7	150

Question No: 3

Marks: 5

Annual discount rate is 12%. Initial cost of investment 1 year from today is Rs.15000. Return from first year is Rs. 4000. Return from second year is 4500.
Return from third year is Rs. 6500. What is the net present value of this investment? Use Excel function NPV.

Question No: 4

Marks: 5

Plot the above data as actual data as well as moving averages.

Known y	Known x
2	6
3	5
9	11
1	7
8	5
7	4
5	4

Question No: 5

Marks: 10

For the data shown below find simple averages, moving averages, actual – trend and seasonal variations.

Day	Period	Data
1	Morning	270
	Afternoon	340
	Evening	330
2	Morning	276
	Afternoon	252
	Evening	333
3	Morning	282
	Afternoon	261
	Evening	342

Question No: 6

Marks:5

For the data given below find seasonal variations and plot the data as a line graph.

Qtr	Actual
1	242
2	154
3	262
4	306
1	230
2	150
3	274
4	298
1	226
2	142
3	262
4	286

Question No: 7

Marks:5

(a) There are 120 objects. The number of objects in each permutation is 4. Find the total number of permutations.

(b) Probability of success is 65%. What is the probability of 8 successes out of 9? Use BINOMDIST for the

calculation.

Question No: 8

Marks:5

(a) Number of events are 4. Expected mean is 10. What is cumulative Poisson probability for these events?

(b) Number of events is 4. Cumulative Poisson probability for these events is 0.19%. What is the Expected mean? Use POISSON function using hit and trial method.

Question No: 9

Marks:5

(a) Find proportion of bags which have weight in excess of 615 g.

Mean = 610. StDev = 3.0 g.

(b) What percentage of bags filled by the machine will weigh less than 607.5 g?

Mean = 610 g; StDev = 3.0 g.