



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2015/2016

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE
OF BACHELOR OF BACHELOR OF SCIENCE, BACHELOR OF
EDUCATION AND BACHELOR OF ARTS WITH INFORMATION
TECHNOLOGY**

CITY CAMPUS-(EVENING/WEEKEND)

**UCI 104: INTRODUCTION TO DATA ANALYSIS WITH
SPREADSHEETS**

Date: 12th December, 2015

Time: 9.00 - 11.00 am

INSTRUCTIONS:

- Answer question ONE (compulsory) and any other TWO questions.
- Use of mobile phone is prohibited in the examination room.



Question 1 (Compulsory, 30 Marks)

- (a) Define the following MS Excel concepts: (4 marks)
- i) Future value
 - ii) function
- (b) Distinguish between a workbook and a worksheet. (4marks)
- (c) State two ways in which the Currency number format differs from the Accounting format(2 marks)
- (d) Show how Ms Excel would evaluate the following expression: (4 marks)
- $$(5 + 2) * 2 ^ (3 - 1)$$
- (e) Explain when to use the following chart types: (4 marks)
- (i) Doughnut chart
 - (ii) Radar chart
- (f) Evaluate the following function and explain your answer: (4 marks)
- =IF(WEEKDAY(TODAY())=1,"Sunday","Working Day")
- Note: Take this exam's date as today's date.*
- (g) State the output of the following formula:
- (i) =TODAY+2 (2 marks)
 - (ii) IF(NOT(AND(40<50,30>20)),"Pass","Fail") (2 marks)
- (h) Explain the cause of the following error messages and give a solution to each: (4 marks)
- i) #####!
 - ii) #DIV/0

Use the worksheet below to answer questions 2 and 3

	A	B	C	D	E	F	G	H	I
1	TAHIDI HIGH SCHOOL								
2	FORM II EXAMINATIONS				DATE:				
3	CLASS	STUDENT NAME	MATHS	ENG	C/STUDIES	TOTAL	AVERAGE	GRADE	
4	2A	ALI	67	74	71				
5	2B	MAINA	58	65	56				
6	2D	KIJANA	45	69	70				
7	2C	SHIBE	45	50	49				
8	2C	TAUSI		56	70				
9	2B	SHAH	55	80	34				
10	2C	JAMAL	40	40	35				
11	SUBJECT AVERAGE								
12	MEDIAN								
13									
14									

Note: Pass mark is 40%

Question 2 (20 Marks)

- (a) The results were posted two days before. Write a formula to display the day. (2 marks)
- (b) Write a function to determine the number of students who don't take ENG in 2C stream. (3 marks)
- (c) Write function to determine the average for stream 2B in English for students with at most 50% in Math. (3 marks)
- (d) Write function to calculate the average for only students who passed in C/Studies from stream 2A. (3 marks)
- (e) Write function to count the number of students who have scored grade C and above in stream 2C. (3 marks)
- (f) State the function that determines the position taken by Maina in the class based on total score. (2 marks)
- (g) A function is used to remark "Pass" or "Fail" if a student Passes in either MATH and ENG or MATH and C/STUDIES. State the function that remarks for Shah. (4 marks)

Question 3 (20 Marks)

- (a) Write function to determine the third best student in MATHS. (2 marks)
- (b) Write function to determine the standard deviation for ENG. (2 marks)
- (c) Explain the output of the following formula: =MODE(D4:D10). (3 marks)
- (d) Students are to be graded, using the Maseno University grading system, based on the average mark.
Note: The function should not grade students who did not sit the exam, and if the mark less than 0 or greater than 100 it should display "Error". State the function for cell H6. (6 marks)

Mark	Grade
70-100	A
60-69	B
50-59	C
40-49	D
0-39	F

- (e) As an IT manager of your company, you advised top management to be using the MS Excel 2007 Solver feature in making key decisions. One day the production manager sort to find out what combination of inputs would yield the optimum profits. However Excel reported that there is no solution available to the given constraints. However it's believed that a solution exists. Identify possible remedies to this situation. (7 marks)

Question 4 (20 Marks)

Use the spreadsheet below to answer parts (a) and (b)

The spreadsheet shows a data table with columns for ID, Product Name, Unit Price, In Stock, On Order, and Reorder Level. A separate section is used for looking up product details based on a Product ID.

ID	Product Name	Unit Price	In Stock	On Order	Reorder Level
1	Chai	\$18.00	39	0	10
2	Chang	\$19.00	17	40	25
3	Aniseed Syrup	\$10.00	13	70	25
4	Mishi Kobe Niku	\$97.00	29	0	0
5	Ikura	\$31.00	31	0	0

Product ID:	3
Product:	
Price:	
In Stock:	
On Order:	
Reorder Level:	
Value of Inventory:	
Value on Order:	
Average Reorder Cost:	

(a) Using VLOOKUP function, state the function for cell:

i) C4

ii) C5

iii) C6

(6 Marks)

(b) Use the values obtained to calculate the value for cell

i) C9.

ii) C10

iii) C11

(6 marks)

Use the spreadsheet below to answer parts (c) to (f)

	A	B	C	D	E
1	Q4. c)				
2	Principal	Rate p.a	Amount	Payments	
3	500	4%	4500	150	
4					
5	Q4. d)				
6	Principal	Years	Rate p.a	Servicing Amount	
7	10000	3	5%	2000	
8					
9	Q4. e)				
10	Principal	Years	Rate p.a.	Amount	
11	10000	30	7%	1000000	
12					
13	Q4. f)				
14	Principal	Years	Payments		
15	5000	4	117		
16					

- (c) Write function to determine monthly contribution for terms stated in Q4 a) in the figure above. (2 marks)
- (d) Write a function to determine the amount owed to a bank after a loan repayment with reference to terms specified as Q4. d) above. (2 marks)
- (e) Write function to determine the monthly contribution to an investment to realize the set amount with reference to details headed Q4. f) above. (2 marks)
- (f) Write function to determine the interest rate p.a. the terms headed Q 4. F) above attracts. (2 marks)

Question 5 (20 Marks)

Use the screenshot below to answer the questions in this section where applicable.

	A	B	C	D	E	F	G	H
1	Dates							
2	Today's date							
3	Yesterday's date							
4					Date	Day of the Week		
5	Project Management				11/1/2011			
6	Start Date	11/1/2011			11/2/2011			
7	Duration	200			11/3/2011			
8	End Date				11/4/2011			
9					11/5/2011			
10	October Working Days				11/6/2011			
11	Start Date				11/7/2011			
12	End Date				11/8/2011			
13					11/9/2011			
14	Holiday				11/10/2011			
15	Moi Day	10/10/2011			11/11/2011			
16	Mashujaa Day	10/20/2011						
17	Mothers Day	10/31/2011						
18								
19	No. of Working Days							
20								
21								

- Write function to determine the number of working days in the month of October. (3 marks)
- Write function to determine a projects end date given the information above. (2 marks)
- Write function in cell F4 to determine the day of the week e.g. Monday, Tuesday etc. (6 marks)
- Explain three limitations of the Scenario Manager feature as a decision support tool for the top management of an organization. (3 marks)
- Describe the following charts and state what kind of information they are used to convey. (6 marks)
 - Bar
 - Bubble
 - Cone