



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2013/2014**

**FIRST YEAR SECOND SEMESTER EXAMINATIONS FOR THE  
DEGREE OF BACHELOR OF EDUCATION WITH INFORMATION  
TECHNOLOGY  
(HOMA BAY CAMPUS)**

**SCS 114: SPREADSHEETS AND DATABASES**

*Date: 4<sup>th</sup> April, 2014*

*Time: 2.00 – 4.00pm*

**INSTRUCTIONS:**

- Section A: Attempt QUESTION ONE which is compulsory (30 marks).
- Section B: Attempt ANY TWO questions (20 marks each)
- Start a new question on a new page.
- Mobile phones are prohibited in the Examination room.



**QUESTION ONE (COMPULSORY, 30 MARKS)**

- (a) Explain the function of the following in Ms Access 2007 : (6 marks)
- (i) Query
  - (ii) Report
  - (iii) Module
- (b) State three differences between a function and a formula. (3 marks)
- (c) Show how MS Excel would evaluate the following expression(3MARKS)
- (d) State five advantages of using Ms Access to store data over Ms Excel. (5 marks)
- (e) State and explain five different sections of an MS Access report. (5 marks)
- (f) Explain the role of the following Ms Access 2007 field properties. (8 marks)
- i) Caption
  - ii) Input mask
  - iii) Validation rule
  - iv) Validation text

Use the spreadsheets screenshot below to answer questions TWO and THREE

	A	B	C	D	E	F	G	H	I
1	TAHIDI HIGH SCHOOL								
2	FORM II EXAMINATIONS								
3	CLASS	STUDENT NAME	MATHS	ENG	C/STUDIES	TOTAL	AVERAGE	GRADE	
4	2A	ALI							
5	2B	MAINA	67	74	71				
6	2D	KIJANA	58	65	56				
7	2C	SHIBE	45	69	70				
8	2C	TAUSI	45	50	49				
9	2B	SHAH		56	70				
10	2C	JAMAL	55	60	34				
11	SUBJECT AVERAGE		40	40	35				
12	MEDIAN								
13									
14									

**QUESTION TWO (20 MARKS)**

- (a) If the results are posted two days from today, write function to display the date in cell E2. (2 marks)
- (b) Write formula to determine the number of students who do not take ENG subject. (3 marks)
- (c) Write a formula to determine the best performed subject by third student. (3 marks)
- (d) Write function to determine the average for class 2C in English. (3 marks)
- (e) Write function to count the number of students who have scored grade C and above in MAT  
(3 marks)
- (f) State and explain the output of the following: =MODE(D4:D10) (3 marks)
- (g) Write formula to determine the mean score for ENG subject. (3 marks)

**QUESTION THREE (20 MARKS)**

- (a) State the function that is used to determine the second highest score for Eng (3 marks)
- (b) Write formula/function to determine 5<sup>th</sup> lowest score for Eng subject. (3 marks)
- (c) Write formula to determine the average for the fourth student, rounded off to a whole number.  
(3 marks)
- (d) Write function/formula to rank the students Maina's performance based on the total mark.  
(3 marks)
- (e) Write function to grade MATH performance for JAMAL based on the grading system shown below.  
(8 marks)

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

Use the tables below to answer question Four and Five

**EMPLOYEEDETAILS**

DATE OF ADMISSION	NAME	AGE	SEX	ENTRY MARK	ADMNO	HOUSE
22/02/2001	Joseph Peter	13	M	530	2034	A
15/01/2003	Mark James	14	M	554	2021	A
04/05/2004	Mary Magdy	17	F	519	2022	B
17/06/2004	Musa Juma	16	M	560	2100	B
14/12/2006	Paulline Jones	15	F	533	2123	A
04/04/2001	Waswa Mary	13	F	540	2140	B

**QUESTION FOUR (20 MARKS)**

- (a) Explain the problem with the NAME field and suggest a solution. (2 marks)
- (b) Nominate the bested suited field to be the primary key for the table. Explain your answer. (3 marks)
- (c) Design a database structure to hold the data above, taking the correction in (a) above into consideration. (6 marks)
- (d) For each question below, copy the Query Design View grid below into your answer sheet and use it to answer the following questions:

Field					
Table					
Sort					
Show	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria					
OR:					

- (e) Design a query to show admission number, names and age respectively for all students whose second name ends with letter "s". (3 marks)
- (i) Design a query to retrieve students admitted between the years 2001 and 2004. (2 marks)
- (ii) Design a query to retrieve students who scored at least 540 and at most 550 marks. The query should display admission number, names and entry mark fields respectively. Further, it should sort the list in ascending order of admission number. (3 marks)
- (iii) Design a query to retrieve students whose age is over 13 years, they are male and are members of the 'A' house. (3 marks)

**QUESTION FIVE (20 MARKS)**

(a) Explain the following concepts, stating their usefulness in a database design (6 marks)

i) Validity integrity

ii) Entity integrity

iii) Referential integrity

(b) State and explain four sections of an MS Access 2007 form. (4 marks)

(c) Explain five different database models.

(10 marks)