



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

**FIRST YEAR SECOND SEMESTER EXAMINATIONS FOR THE  
DEGREE OF BACHELOR OF SCIENCE IN PUBLIC HEALTH WITH  
INFORMATION TECHNOLOGY  
(CITY CAMPUS - WEEKEND)**

**SCS 114: SPREADSHEETS AND DATABASE**

*Date: 29<sup>th</sup> November, 2013*

*Time: 5.30 -7.30pm*

**INSTRUCTIONS:**

- Answer ALL questions in Section A and any other TWO questions from section B.
- Write your registration number on all sheets of the answer book used.
- Use a new page for every question attempted, and indicate the question number on the space provided on each page of the answer sheet.

**Question One (Compulsory, 30 Marks)**

(a) Explain the following Database terms [6 Marks]

- i). Table
- ii). Record
- iii) Field

(b) Explain the following Spreadsheet terms [4 Marks]

- i). Worksheet
- ii). Cell

(c) State and explain four objects that make up an Ms Access database. (8 marks)

(d) State four applications of DATABASES (8 marks)

(e) Explain the difference between a 'formula' and a 'function', illustrating your answer with suitable examples of each. (4 marks)

*Use the spreadsheet screenshot below to answer questions TWO and THREE*

RegNo	Name	Eng	GRD	Kisw	GRD	Total	New Total	Rank
001	John	45	D	66		111	138.75	
002	Mary	56	C	54		110	137.5	
003	Otiemo	77		55		132	165	
004	Musa	60	B	55		115	143.75	
005	Were	54	C	67		121	151.25	
006	Kipchumba	78	A	89		167	208.75	
007	Wamukwa	23	F	78		101	126.25	
008	Kamau	45	D	23		68	85	
009	Musau	60	B	22		82	102.5	
010	Juma	68	B	45		113	141.25	
13	Mean							
14	Mode							
15	MAXIMUM							
16	5th Lowest	56						
17	Median							
18	2nd Highest							
19	50% and above							

**Question Two (20 Marks)**

(a) State the command used to format cells A1 to I1. (1 marks)

(b) Explain how you would enter the values in the A3:A12 range and in an efficient manner (4 marks)

(c) State the formula for grading Musa's score in Kiswahili. (6 marks)

Write a formula to calculate the total in cell G7 (2 marks)

Write formula/function to determine mean score for Eng subject which is stored in cell C13.

(2 marks)

(d) Due to poor performance, the school's management decides to increase each student's total score by 25%. Using the value entered in cell K2, write the formula for cell H6. (5 marks)

**Question Three (20 Marks)**

(a) State the function for calculating the median score for Kisw (2 marks)

(b) State the function that is used to determine the second highest score for Eng (3 marks)

(c) Write formula/function to determine 5<sup>th</sup> lowest score for Eng subject. (3 marks)

(d) The values in column H are to be rounded off to whole numbers. State the formula/function for cell H5.

(3 marks)

(e) Write formula/function to determine the number of students who scored 50 and above in Eng

(3 Marks)

(f) State cell addresses whose values would change on the worksheet when the contents of cell C4 are changed.

(6 Marks)

*Use the tables below to answer questions Four and Five*

**EMPLOYEEDETAILS**

DATEOFEMP	NAME	CATEG ORY	RATE/HR	EMP_ID	PAYROLLNUM	HOURS	EMP_ID	SALARY
22/02/2001	Joseph Peter	Senior	500	2034	001.	50	2034	
15/01/2003	Mark James	Junior	250	2021	002.	25	2021	
04/05/2004	Mary Magdy	Senior	3200	2022	003.	32	2022	
17/06/2004	Musa Juma	Junior	2000	2100	004.	20	2100	
14/12/2006	Paul Jones	Junior	260	2123	005.	26	2123	

**Question Four (20 Marks)**

- (a) Design a table structures to hold the table above. (10 marks)
- (b) Nominate the bested suited field to be the primary key for each table. (4 marks)
- (c) Explain why it is more desirable to maintain database in Ms Access over Ms Excel(6 marks)

**Question Five (20 Marks)**

- (a) Write a query to retrieve worker who earn at least KSh. 2000/hour. (2 marks)
- (b) Write a query to retrieve employees employed between 1/1/2004 and 31/12/2004. (4 marks)
- (c) State and explain four principles of designing a good table structure. (4 marks)
- (d) State and explain five types of database architectures (10 marks)