



# JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

**BED (SPECIAL NEEDS) Y1S1- SCHOOL BASED EXAMINATION**

**AUGUST 2013**

Course Title: Spread sheet and databases

Course Code: SCS 114

## **INSTRUCTIONS:**

- i. This paper contains five (5) questions.
- ii. Question ONE is Compulsory and any other TWO questions
- iii. Mobile in Exams rooms not allowed
- iv. Answer the questions on the booklet provided

**Question one 30marks**

- a) Explain the role of the various parts of a typical formula in an Ms excel spread sheet (4mk)
- b) Explain the fastest means of navigating to the following cells (6mk)
  - i. The last cell in row one
  - ii. First cell in row one
  - iii. Last cell of the last column
- c) Outline how the following chart types can be used in representation of data (12mk)
  - i. Exponential
  - ii. Linear
  - iii. Logarithmic
  - iv. Polynomial
  - v. Power
  - vi. Moving Average

d) Below is an extract of a spread sheet,use it to answer questions that follows:

	A	B	C	D	E	F	G
	EMPLOYEE	SEX	GROSS PAY	HOUSE ALLOWANCE	NHIF	NSSF	NET PAY
1	JOYCE	F	23900				
2	PATTY	F	12870				
3	CHARLEY	M	15450				
4	CHRIS	M	23900				
5	MORRIS	M	11000				
6	TERRY	F	8900				
7	BOB	M	17650				

- i. Using IF statement write the formulae that would calculate the house allowance, NHIF, NSSF, and NET PAY based on the instructions provided below (4mk)

**Instructions**

House allowance:males get 15% of their gross pay while females get 10%

NHIF:Those earning a gross of over 15000 pay 7% while the rest pay 6.2% of their gross

NSSF:Males pay 5% of their of their gross while the females pay 3.7% of their gross pay

NET PAY: Gross pay +House allowance- taxes

- ii. Explain how you will rewrite the table to sort the data in descending order based on the NSSF (2mk)
- iii. Re-write the table to filter males (2mk)

- iv. Explain the difference between Auto filter and advanced filter (4mk)

### Question two 20marks

Using appropriate example explain how the following data types can be used in database design for an education management information system(20mk)

- i. Text
- ii. Number
- iii. Date
- iv. Memo
- v. Hyperlink
- vi. Yes/No
- vii. OLE Object
- viii. Look up Wizard
- ix. Currency
- x. Auto-number

### Question Three 20marks

Discuss the short coming of a spread sheet application in statistical analysis (20mk)

### Question Four 20marks

- a) What is query (2mk)
- b) Explain the difference between the following terms as used in database design
- c) Field, primary key, record, foreign key (4mk)
- d) Describe the factors to consider in acquiring a computer application package for use in a school (14mk)

### Question Five

- a) Explain the difference between a works sheet and a workbook (2mk)
- b) Identify any three types of database management systems that can be installed and used by a school (3mk)
- c) By using school examination information system as an example explain how you can apply database forms and reports during database design (5mk)
- d) Explain the advantages of application packages over in-house packages (10mk)

# JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

## **BED(Special Needs Education) Y1S1**

### **Course outline**

#### **Spreadsheet and Databases**

**Course Lecturer:** *AbilajamesOnyango*

#### **Aim**

The course aims at giving an understanding of the nature of spread sheets and Databases and acquire skills applicable for special needs Education.

#### **Objectives:**

**The Course unit will enable learners to:**

- i. Understand nature of spread sheets and Databases
- ii. Design business spread sheets and Databases

#### **Course Content:**

Types of Application packages

Spread sheet software applications in education

Parts of a spread sheet

Navigating skills in spread sheet

Data entry

Calculations; formula and functions

Formatting

Worksheet

Decision functions and formulae

Filtering

Referencing

Database

Advantages of DBMS

Designing databases

Normalization

Tables

Queries

Forms and reports

### **Learning Outcome**

- i. Gain understanding of principles of spread sheet and databases
- ii. to be skilled in designing of spread sheet and databases for special needs education

### **Teaching Learning Materials/Resources**

- i. Computers
- ii. Internet connectivity
- iii. Removable storage devices; Flash disks, CD-R.

### **Evaluation**

i.	<i>Written Assignments</i>	<i>15%</i>
ii.	<i>Project</i>	<i>15%</i>
iii.	<i>Exams</i>	<u><i>70%</i></u>
iv.	<u><i>Total:</i></u>	<u><i>100%</i></u>

### **Reading List**

Onunga (2010).*Introduction to computers*.Mariwapublishers .Nairobi

Connoly and Beig (2000).Database and database systems