



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION ARTS

WITH IT

1ST YEAR 2ND SEMESTER 2015/2016 ACADEMIC YEAR

KISUMU CAMPUS

COURSE CODE: SCS 114

COURSE TITLE: INTRODUCTION TO DATABASES AND SPREADSHEET

EXAM VENUE: STREAM: BED ARTS

DATE: JAN-APRIL 2017 EXAM SESSION:

TIME: 2.00 HOURS

Instructions:

- 1. Answer Question 1 (Compulsory) and ANY other two questions**
- 2. Candidates are advised not to write on the question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

QUESTION 1: {30 MARKS}

- a) What name is given to the intersection of a row and a column in spreadsheet? (1 Mark)
- b) What is the difference between primary key and foreign key? (4 Marks)
- c) State any *eight* applications of database management systems (8 Marks)
- d) Name the *three* types of data found in spreadsheet. (3 Marks)
- e) List down *at least six* SQL commands (3 Marks)
- f) State what would be returned if the following formula is inserted in the cell; =YEAR (TODAY ()). Assume today's date is 24/4/2014. (2 Marks)
- g) Citing specific areas of application state and explain the strengths of spreadsheets over other application software. (10 Marks)

QUESTION 2: {20 MARKS}

- a) Explain the significance of charts in modern electronic spreadsheets and briefly describe any three types of charts supported by Ms Office Excel. (8 Marks)
- b) You are required to design a table that contains information found in a library. In this task, identify the following:
 - (i). *At least 3* possible fields and appropriate names (3 Marks)
 - (ii). Give a field data type for each of the identified fields. (3 Marks)
 - (iii). If you are to calculate the tax on Gross Pay where male pays 10% of the gross pay while a female pays 8% of her Gross Pay, further assume that the column for "Gender" is A and, also take column for "Gross Pay" to be B. Let this operation be done on row 1. Formulate an IF statement for this operation. (4 Marks)
- c) Give the syntax for SELECT statement and give an example of its usage. (2 Marks)

QUESTION 3: {20 MARKS},

- a) Differentiate between DDL and DML. (4marks)
- b) Mention the different keywords or statements in DDL and DML(4Marks)
- c) Explain why it is desirable to maintain database in MS Access over Ms Excel.
(6 Marks)
- d) Explain and give the syntax of usage for *at least six* functions in Excel.
(6 Marks)

QUESTION 4:

- a) State and explain different areas where spreadsheets can be used in an institution of higher learning. (10 Marks)
- b) State and explain *any five major* steps in the design of databases.(10 Marks)

QUESTION 5:

- a) State and explain the three types of relationships in relational databases using at least two pairs of database tables for each to depict the relationship. (10 Marks)
- (i). Name *any five* individuals interacting with database management systems and briefly explain their roles. (10 Marks)