

KABARAK



UNIVERSITY

EXAMINATIONS

2008/2009 ACADEMIC YEAR

**FOR THE DEGREE OF BACHELOR OF BUSINESS MANAGEMENT
& INFORMATION TECHNOLOGY**

COURSE CODE: BMIT 116

**COURSE TITLE: INTRODUCTION TO INFORMATION
 TECHNOLOGY**

STREAM: Y1S1

DAY: TUESDAY

TIME: 2.00 – 5.00 P.M.

DATE: 04/08/2009

INSTRUCTIONS:

Section A is **compulsory** and has **20 (marks)**

Attempt **any TWO** questions from **Section B**. Each question has **(15 marks)**.

PLEASE TURN OVER

QUESTION ONE (40mks)

- a) Explain the following terms
 - i) Database Management System
 - ii) Weak Entity
 - iii) Tuple
 - iv) Relation
 - v) Attribute [5mks]
- b) Give and explain
 - i) Four Disadvantages of file based system [4mks]
 - ii) Four advantages of a DBMS [4mks]
 - iii) One disadvantage of a DBMS [1mk]
- c) Give the different types of software Development lifecycle models [2mks]
- d) What it is conceptual database design [1mk]
- e) What is the use of a document flow diagram [2mks]
- f) Give the different symbols that represents the components of a data flow Diagram. [2mks]
- g) A table for storing employee's records in a database had the following data.

STAFF

Staff_No	F_Name	L_Name	Position	Gender	D_O_B
SI02	John	Kingori	Manager	M	13 TH /3/1985
Sg37	Steve	KipKorir	Supervisor	M	13 TH /3/1985
Sg14	Susan	Mutua	Driver	F	13 TH /3/1985
Sc26	Steve	Kingori	Driver	M	

- i) Which of the fields on the table is most likely to be the primary key and why? [3mks]
- ii) Write an SQL statement that will produce from the table a list of all staff's showing the Staff number, Last Name and first names only [3mks]
- iii) Write an SQL statement that will produce the same list but with the Last Name and First Name combined as Staff Names [4mks]
- iv) Use an Sql statement to find the details of all supervisors [2mks]
Write a statement that would count the different **types** of positions for the employees [3mks]
- h) Differentiate between An entity-type and an entity instance. [2mks]
- i) What is database security [2mks]

QUESTION TWO 20MKS

- a) Differentiate between a primary key and a candidate key [2mks]
- b) Explain the two components of multiplicity integrity [4mks]
- c) The following schema shows how the details about students and subjects are stored in a school database system. The students are supposed to select which subjects to study while at school. A student can select at least four subjects and at most seven subjects.

STUDENT (Student_Id,Family_Name,Last_Name,Sex)

SUBJECT(Subject_Code,Subject_Title, Lessons_per_week)

- i) Draw an appropriate E-R diagram showing the relationship between the student and the subject's entity types [3mks]
- ii) State the cardinality of the relationship [1mk]
- iii) Write an SQL statements for creating the two tables in an SQL Server database [6mks]
- d) Use an SQL statement to insert an appropriate record into the students table [2mks]
- e) Redraw the E-R diagram to include the examination and assignment records in to the database. [2mks]

QUESTION THREE 20MKS

Discuss the different stages of database system life cycle. [20mks]

QUESTION FOUR 20MKS

- a) What is normalization [2mks]
- b) Explain the first three normal forms [6mks]
- c) Explain two ways that normalization is used in database design [4mks]
- d) Discuss any two anomalies that arise when data is not normalized [4mks]
- e) The following table is in which normal form? Explain your answer [4mks]

Exam Table

Student number	Course code	Course title	c.f	marks

QUESTION FIVE 20MKS

- a) Explain the following terms
 - i) Data Mappings [2mks]
 - ii) Data modeling [1mk]
- b) Discuss the different types of data independence [6mks]