



**JARAMOGI OGINGA ODINGA UNIVERSITY OF  
SCIENCE AND TECHNOLOGY**

**SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS**

**DIPLOMA IN LINUX ENGINEERING**

**COURSE CODE: ICT2114**

**COURSE TITLE- INTRODUCTION TO MYSQL DATABASE SYSTEM**

**EXAMINATIONS 2012/2013**

**TIME 2HRS**

**INSTRUCTIONS:**

**This paper contains five (5) questions. Question ONE is Compulsory and any other TWO questions**

### Question One 30marks

- i.) Define the following terms 12marks
  - a. SQL
  - b. Data Integrity
  - c. Data Manipulation Language
  - d. Data definition Language
  - e. Indexes
  - f. Sub-query.
- ii.) Explain four features of a well-normalized database 4marks
- iii.) Give **six** programs installed with SQL –Server 6marks
- iv.) Explain four features of a well-normalized database 4marks
- v.) State and briefly describe any four various versions of SQL 4marks

### Question Two 20marks

- i.) Give and explain **five** features of SQL Server 10marks
- ii.) Draw and explain the SQL Server database architecture 10marks

### Question Three 20marks

- i.) Differentiate between the **SQL INNER JOIN, LEFT JOIN and RIGHT JOIN** 4marks
- ii.) State **four** ways of enforcing data integrity 4marks
- iii.) Define the following terms as used in relation to SQL –Server 4marks
  - a. Primary Key
  - b. Secondary Key
  - c. Device Independence
  - d. ODBC
- iv.) Constraints are used to implement business rules. Explain the functions of the following constraints in the database 4marks
  - a. UNIQUE constraint
  - b. CHECK constraint
- v.) Give and explain **four** data types used in MS-SQL Server 4marks

### Question Four 20marks

- (i.) What is a stored procedure? ( 2 marks )
- (ii.) State three reasons of using stored procedures over giving users direct access o the underlying data. (3 marks )
- (iii.) Define the following terms 5marks
  - a. Server roles
  - b. Database roles
- (iv.) Outline seven server roles ( 7 marks )
- (v.) List three kinds of database roles (3 marks)

### Question FIVE 20marks

Give the SQL statements for carrying out the following:

- (i.) Creating database called “Diverse” ( 2marks)
- (ii.) Create a table called people with the following fields and data types 4marks
- |            |         |
|------------|---------|
| LastName   | varchar |
| SecondName | varchar |
| Address    | varchar |
| Age        | int     |
- (iii.) Create an index called “People Index” on the Lastname field on people table. Sort the lastname field in descending order. ( 2 marks)
- (iv.) Add a column named “City” on the People table. (3 marks)
- (v.) Give examples of **two** aggregate functions and three scalar functions in SQL. ( 5 marks).
- (vi.) Explain what the following keywords do. ( 4 marks )
- TRUNCATE TABLE
  - DROP INDEX