



MURANG'A UNIVERSITY COLLEGE

(A constituent college of Jomo Kenyatta University of Agriculture and Technology)

UNIVERSITY EXAMINATIONS 2014/2015

YEAR ONE SPECIAL/SUPPLEMENTARY EXAMINATION FOR THE DIPLOMA IN
INFORMATION TECHNOLOGY
SCI 0103: DATABASE SYSTEMS

COURSE: DIT

TIME: 2 HOURS

DAY/TIME: Wednesday 8:30am-10:30 am

DATE: 5th August 2015

INSTRUCTIONS: *Answer question one and any other two questions*

Question One (30 marks)

- a. Explain three phases of database design (6 marks)
- b. Explain any four database objects found in Ms access (4 marks)
- c. Define the following terms as they relate to relational databases (8 marks)
 - i. Database
 - ii. Relation
 - iii. Tuple
 - iv. Super key
- d. Explain the essence of defining input masks (2 marks)
- e. Describe any three data types supported by MS Access (6 marks)
- f. Outline the steps to follow to filter a table in Ms access (4 marks)

Question Two (20 marks)

- a. State and describe five components of the database management system environment.
(10marks)
- b. Outline the procedure for defining a relationship in Ms Access 2007/2010
(8marks)
- c. Describe the essence of enforcing referential integrity when defining relationships
(2 marks)

Question Three(20 marks)

- a. Discuss the three-tier database management system architecture describing four advantages it offers over the two-tier architecture
(10 marks)
- b. Wamagoro enterprises, your client wish to start using queries in displaying records from multiple tables and they have called you for help. Outline the procedure for creating a query that uses multiple tables in Ms Access 2007/2010
(8 marks)
- c. Define a query
(2 marks)

Question Four (20 marks)

- a. Describe five functions that should be provided by a modern full scale multi-user DBMS
(10 marks)
- b. Describe any four properties of relational tables
(8 marks)
- c. Describe the essence of reports in database management systems
(2 marks)