MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018

SECOND YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF BUSINESS ADMINISTRATION WITH
INFORMATION TECHNOLOGY

MAIN CAMPUS

BIT 211: DATABASE SYSTEMS I

Date: 12ᵗʰ February, 2018   Time: 8.30 –11.30 am

INSTRUCTIONS:

- Answer question ONE and any other TWO questions

QUESTION ONE. (COMPULSORY 25 MARKS)

a). Define Database Management Systems (DBMS) (2 marks)

b) Explain the use of the following objects in databases (6 marks)
   i) Tables

   ii) Forms

   ii) Query

c) The following car details are to be entered in a database: Make, Date-of-manufacture, colour, and cost.

   i) Prepare a suitable database structure showing field names and their field data types

   (6 mks)

   ii) Explain how you index the data such that cars of the same make and color are together.

   (2mks)

   iii) Write a statement that can be used to select cars of color green. (2mks)

   iv) Give an instruction that would:

   - Select cars whose cost is between Kshs 500,000/= and Kshs 1,000,000/=

   (3mks)

   - Determine the average cost of all cars. (3mks)

QUESTION TWO. (15 MARKS)

a) Describe four major shortcomings of the conventional (paper) file structures that are being addressed by the database approach. (8marks)

b) Explain TWO methods used to secure data in a database (4 marks)

c) Explain how 'parents' and 'child' tables are related in relational database   (3 marks)

QUESTION THREE. (15 MARKS)

a) Differentiate between:

    i)   Primary key and relationship   (2mks)

    ii)   Tabular and columnar form layout.   (2mks)

b) State three types of relationships that can be used to link tables in databases.   (3 marks)

c) i) Define the term normalization as used in database design   (2 marks)

   ii) State the three objectives normalization.   (6 marks)

QUESTION FOUR. (15 MARKS)

  a) Explain three types of database models.   (6mks)

  b) List four examples of database programs in the market today   (4 marks)

c) State the components of a Database hierarchy in ascending order   (5 marks)

QUESTION FIVE. (15 MARKS)

  a) Explain **THREE** main disadvantages of database   (6 marks)

  b) Explain THREE different types of integrity constraint in database.   (6 marks)

  c) State **THREE** roles of database administrator   (3 marks)