SOUTH EASTERN KENYA UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN BACHELOR OF PROCUREMENT AND SUPPLY CHAIN MANAGEMENT

SCI 104: DATABASE SYSTEMS
(Kitui Campus)

DATE: 19TH APRIL, 2017   **TIME: 8.00 -10.00 AM**

Answer question **one** and **any other two** questions   TIME 2 HOURS

Question ONE

a. Explain the meaning of the following concepts; give an example for each [10 marks]
   i.   Data mining
   ii.   Design methodology
   iii. Entity
   iv.   Entity Relationship
   v.   Normalization

b. List any FOUR database models that are of an interest to a DB developer   [4 Marks]

c. Explain FIVE categories of database users   [5 Marks]

d. Explain the areas of concern when designing physical representation of DB [5 Marks]

e. Describe the basic properties of relational tables   [6 marks]

Question TWO

a. Differentiate a database from Database management system [4 Marks]

b. Discuss ANY THREE components of the DBMS environment and discuss how they relate to each other [6 marks]

c. Describe the process of building local conceptual data model [10 marks]

Question THREE

a. Explain the need to use entity relationship diagrams during modeling. [4 marks]

b. Describe any FOUR attribute domain sets that are used in database modelling [8 Marks]

c. Explain why relations based on relational algebra are preferred in database modelling [8 marks]

Question FOUR

a. Define the term "Key" [1 mark]

b. Describe THREE types of keys that can be used in DB implementation [3 Marks]

c. Describe classes of update anomalies [6 marks]

d. Explain the five reasons why file system is considered inadequate in data management. [10 marks].

Question FIVE

a. Define the term "SQL" [2 marks]

b. Describe characteristics that qualify a 1NF (First Normal Form) [5 Marks]

c. State the advantages of network model [5 marks]

d. Highlight on the major SQL DML Commands [8 marks]