JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS & ECONOMICS

UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF BUSINESS ADMINISTRATION WITH IT

2ST YEAR 2ND SEMESTER 2018/2019 ACADEMIC YEAR

KISII / NAMBALE CAMPUSES

COURSE CODE   :   SCS 212

COURSE TITLE   :   DATABASE SYSTEMS

EXAM VENUE   :   STREAM: (BBA – FINANCE)

DATE   :   16/08/19   EXAM SESSION: 9.00 – 11.00am

TIME   :   2.00 HOURS

Instructions:

1. **Answer Question one (Compulsory) and any TWO questions**
2. **Candidates are advised not to write on the question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**
4. **Question ONE carries 30 marks and the rest 20 Marks each**

QUESTION ONE 30 MARKS

a) Describe five Discus Five components of an Information System   (4 Marks)
b) Discuss any Four example of Database Management Systems   (4 Marks)
c) Define database and explain what the advantages of database are?   (6 Marks)
d) Define the term data integrity   (2 Marks)
e) Explain 4 types of data integrity   (6 Marks)
f) Explain three factors to consider when designing a database   (2 Marks)
g) Explain the following terms as applied in database systems
    i.   Entity   (2 Marks)
    ii.   Relationship   (2 Marks)
    iii.   Attribute   (2 Marks)

QUESTION TWO (20 MARKS)

a) Explain the following properties of transaction
    i.   Atomicity   (2 marks)
    ii.   Consistency   (2 marks)
    iii.   Isolation   (2 marks)
b) Explain three security features of relational database management systems   (6marks)
c) Differentiate between a relation schema and a relation key   (6 marks)
d) State any two integrity constraints   (2 marks)

QUESTION THREE (20 MARKS)

a) Give the main objectives when designing a secure database?   (6 marks)
b) What is the difference between primary key and foreign key?   (4 marks)
c) State and Explain three types of Normalization   (6 marks)
d) Explain what is an entity?   (4 marks)

QUESTION FOUR (20 MARKS)

a) State and explain the three types of relationships in relational databases using at least two pairs of database tables for each to depict the relationship.   (10 Marks)
b) Name any five individuals interacting with database management systems and briefly explain their roles.   (10 Marks)

QUESTION FIVE (20 MARKS)

a) A student as an object has many properties that could be defined in a database. Further the
student has relationship with other objects usually lecturers and lecture rooms. Using your
knowledge in database creation choose some characteristics of students, lectures and lecture rooms and discuss what tables you would create, the definitions you would give each property in Microsoft access and the relationships you would set.   (8 marks)
b) Explain factors to consider when designing a database   (6marks)
c) Explain the following as used in database system
    i.   Foreign key   (2 marks)
    ii.   Functional dependence   (2 marks)
    iii.   Normalization   (2 marks)