



(Knowledge for Development)

KIBABII UNIVERSITY

(KIBU)

UNIVERSITY EXAMINATIONS

2017/2018 ACADEMIC YEAR

END OF SEMESTER EXAMINATIONS

YEAR ONE SEMESTER ONE EXAMINATIONS

**FOR THE CERTIFICATE IN INFORMATION
TECHNOLOGY**

COURSE CODE : ITC 012

**COURSE TITLE : DATABASE MANAGEMENT
SYSTEM**

DATE: 17/01/2018

TIME: 2.00 – 4.00 PM

INSTRUCTIONS TO CANDIDATE

ANSWER QUESTION ONE AND ANY OTHER TWO

QUESTION ONE (COMPULSORY) [24 MARKS]

- a. Define Database [1 mark]
- b. Databases use three main structures for organizing data namely. [3 marks]
- c. A database of employees details has the following fields; Employee number, First Name, Last Name, Section, Sex, Date of employment, Address.
- i. Explain 'DBMS'. [2 marks]
- ii. For each field listed in c above, Identify the most suitable data type. [4 marks]
- ii. It is proposed that a unique field be included in the table. Suggest a name for the field and explain its significance. [4 marks]
- iii. State four advantages of using Ms. Access in managing records to the traditional filing system. [4 marks]
- d) Explain the following terms:
- i. Relational Databases. [2 marks]
- ii. Record [1Marks]
- iii. Field [1 Marks]
- iv. Primary Key [1 Marks]
- v. Entity [1 marks]

QUESTION TWO [18 MARKS]

- a. State any four features of "Database Management System". [4 marks]
- b. A DBMS allows users to access and manage the data collected in a database. Data management tasks (all done through the DBMS) can be divided into three categories namely: [6marks]
- c. Define a filter and briefly explain how helpful it is in navigating the database [2 marks]
- d. State any 3 data types of Ms. Access. [3 marks]
- e. Define a report [1 mark]
- f. Briefly outline procedure for generating a report in Ms Access [3 Marks]

QUESTION THREE [18 MARKS]

- a. A lecturer is about to create a database of students details. He needs to store Information about the following fields: Regno, First Name, Last Name, Age, Fee paid, Balance, Data of enrolment, Address.
- i. For each field propose:-The most suitable data types. [3 marks]
 - ii. The most appropriate field size.
- b. Explain why the field 'Date of Birth' would be more suitable than 'Age'. [1marks]
- c. What do QBE and SQL stand for [4marks]
- d. What is the function of the following database tools? [6 marks]
- i. Table
 - ii. Form
 - iii. Report
- e. Explain the following table properties;
- i. Input mask.
 - ii. Caption.
 - iii. Field size. [4 marks]

QUESTION FOUR [18 MARKS]

- a. Differentiate between the design view and the data sheet view. [4 marks]
- b. Data logic Ltd has set up the database as shown in Table 1. It wishes to analyse its sales using Database management system (Ms-Access).

Table

Product	Units	Cost per unit	Total cost	VAT	Commission
Keyboards	30	200			
Hard disks	15	900			
Floppy drives	10	500			
Ram-memory	21	950			
Casings	34	2,000			
Processors	18	12,000			

If it was calculating the student marks the query expression would be $\text{Total Marks} = [\text{cats}] + [\text{exam marks}]$. Using the information given determine the following:-

- i. A query expression that generates the total cost.
- ii. A query expression that generates VAT at 16% of the total cost.
- iii. A query that generates the commission calculated at 2% of the total cost.
- iv. The manager of Data Logic (K) Ltd would like to have the list of products whose units are greater than 20. Describe the procedure used to generate this list

[6 marks]

c. Explain the following database management terms:

[8 marks]

- i. Data Definition Language.
- ii. Data manipulation language.
- iii. Query language.
- iv. Report

QUESTION FIVE [18 Marks]

a. Assume you are invited in Kipcom, an organization that deals with research and analysis. You observe that the organization has various shelves holding files for clients and various references. You feel like it is important to make them aware of the technology by advising them to come up with a database.

Required:-

- i. What is a database [1 mark]
 - ii. Describe various benefits the organization will gain by use of databases [8 marks]
 - iii. In designing database, explain the tools you will use to achieve just that [5 marks]
 - iv. Define a schema [2 marks]
- b. Outline two types of information systems [2 marks]