

UGANDA MARTYRS UNIVERSITY

UNIVERSITY EXAMINATIONS

FACULTY OF SCIENCE

BSC INFORMATION TECHNOLOGY FINAL EXAMINATION

DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION SYSTEMS

DATABASE PLANNING, DESIGN AND MANAGEMENT

SECOND YEAR EXAMINATION FOR BSC (IT, Gen)

DATE: Thursday December, 13th, 2012

TIME: 9.00 – 12.00 NOON

***Instructions:***

Attempt *four* questions from section A after reading the case study. Section B is compulsory.

DO NOT OPEN THIS BOOKLET UNTIL TOLD TO DO SO

SECTION A: (80 marks)

Your organisation is running a **Computerised File System (CFS)** in all its major sections: Administration, Finance, Accounts, Personnel, etc. In a bid to improve the information needs of the organisation, management has appointed you the **Data and Database Administrator** and your major role would be the key-link between the organisation and IT developers. The IT developers have been contracted by the organisation to build a **corporate database**. Your discussion with the IT experts reveal that **MySQL DBMS** be used during implementation, and that the database system be deployed in a **distributed database environment**. With this background in mind now attempt the following questions.

1. Explain the merits and demerits you would bring to the attention of management regarding the two paradigm data systems being talked about.
2. Prepare a document that you will present to management regarding your responsibilities in the capacity stated in the excerpts above.
3. Prepare a document that you will use to convince management regarding the facilities / features that should be provided by the proposed DBMS. Further, how would you convince management that the proposed DBMS is advantageous over other proprietary counter parts such as Oracle?
4. Prepare a document that you will present to management regarding job descriptions of all the other key people that would be involved in planning, analysis, design, and implementation of the database system proposed.
5. Prepare a document that you will present to management regarding the main purpose and activities that would be involved in the design and implementation of the database system proposed.

#### SECTION B: (20 marks)

6. Your organisation is dealing with books. After six months of hardwork in the project you have been working on, the IT developers with your consent produce the logical design of the database that would finally be implemented. It is shown below.

**Database name: Books**

Publisher (PublisherCode, Name, City)

Branch (BranchNumber, Name, Location, NumberOfEmployees)  
 Book (BookCode, Title, PaperBack, Price, PublisherCodes)  
 Author (AuthorNumber, Name)  
 Wrote (BookCode, AuthorNumber, SequenceNumber)  
 Inventory (BranchNumber, BookCode, OnHand)

- Produce an Entity-relationship model (diagram) of the database that you will present to management for approval.
- Produce the physical design of the database that you would use to educate management.

**END**

SECTION B: (30 marks)