



**THE COPPERBELT UNIVERSITY**  
**SCHOOL OF GRADUATE STUDIES**

**DECEMBER, 2014 – SESSIONAL EXAMINATIONS**  
**GBF789 – MANAGEMENT INFORMATION SYSTEMS**

**TIME ALLOWED: THREE HOURS**

**INSTRUCTIONS :**

- **Maximum Marks Available – 100**
- **This Paper has SIX(6) Questions**
- **Answer Any FIVE (5) Questions**

### QUESTION ONE

- a) Define the following system concepts. **[4 marks]**
  - i) System Variable
  - ii) System Parameter
  - iii) System Model
  - iv) System Efficiency
- b) State and describe the four (4) Outputs of Information Systems. **[4 marks]**
- c) State and briefly discuss the four (4) main types of information system as they serve different organizational levels. **[8 marks]**
- d) Draw and briefly discuss the Schematic model of an information system. **[4 marks]**

### QUESTION TWO

- a) State and briefly discuss the four (4) benefits of an Enterprise System (ERP). **[6 marks]**
- b) State and describe two kinds of Extended Enterprises and industrial networks. **[4 marks]**
- c) State the first six (6) phases in the System Development Lifecycle (SDLC) and state the summarized associated activities for each. **[6 marks]**
- d) Only 20% of systems built today are successful, 80% of systems development fail. State four (4) out of the five primary reasons why systems fail. **[4 marks]**

### QUESTION THREE

- a) Prototyping can be used to perform a variety of functions. State four (4) of these functions. **[4 marks]**
- b) State four (4) advantages of Prototyping. **[4 marks]**
- c) State and briefly discuss four challenges associated with ERPs. **[6 marks]**
- d) State and describe three (3) Example characteristics of a decision support system (DSS) **[6 marks]**

### QUESTION FOUR

- a) Briefly discuss four (4) objectives of the three level database architecture. **[4 marks]**
- b) Define the following database terminologies. **[4 marks]**
  - i) Physical data independence
  - ii) database System
  - iii) Relational database Schema
  - iv) Candidate key
- c) Discuss the following advantages of Database Systems. **[6 marks]**
  - i) Data Consistency
  - ii) Improved data integrity
  - iii) Economy of scale
  - iv) Improved data accessibility and responsiveness.

- d) Discuss the following disadvantages of Database Systems. **[6 marks]**
- i) Additional hardware costs      ii) Cost of conversion
  - iii) Performance                      iv) Higher impact of a failure

### QUESTION FIVE

The Copperbelt University keeps track of each student's name, student number, NRC#, address, phone, birth date and sex. A student enrolls into a programme. A programme has name and code. A programme is offered by a department and a department can offer a number of programs. A programme is made up of courses and a course is identified by course number and course name. A student takes a number of courses and a course can be taken by many students. The university also keeps track of each Lecturer's name, Man number, phone and address. A Lecturer belongs to a department and lectures at least one course. A department belongs to a School and each school is identified by Name. A School is headed by a dean. Final year students are expected to do projects before they can graduate; a project is identified by Name and number. Lecturers supervise these projects.

- a) Draw an ER diagram for the above requirement specification **[12 marks]**
  - b) Convert the ERD you have drawn into relational schemas. **[8 Marks]**
- NB: Show all the necessary steps for both Q 5 a) and b)

### QUESTION SIX

- a) State and describe the four(4) properties of a transaction in Databases. **[6 marks]**
- b) To ensure that a transaction preserves the consistency of the database, a transaction must be atomic, execute to completion and not execute at all. Briefly discuss the above statement. **[4 marks].**
- c) Briefly discuss four (4) facilities provided by DBMS to recover from failure. **[4 marks]**
- d) State and discuss four (4) Measures that can be used to safeguard databases from anticipated threats **[6 marks].**

.....**THE END**.....