Riara University

UNIVERSITY EXAMINATIONS

EXAMINATION FOR SEPTEMBER - DECEMBER 2019/2020 DIPLOMA IN COMPUTER SCIENCE/INFORMATION TECHNOLOGY/ DIPLOMA IN BUSINESS INFORMATION TECHNOLOGY

RCS025: SYSTEM ANALYSIS AND DESIGN

DATE: 13TH DECEMBER 2019   **TIME: 2 HOURS**

GENERAL INSTRUCTIONS:

Students are NOT permitted to write on the examination paper during examination time.

This is a closed book examination. Text book/Reference books/notes are not permitted.

SPECIAL INSTRUCTIONS:

This examination paper consists Questions in Section A followed by section B.

Answer Question 1 and any Other Two questions.

QUESTIONS in ALL Sections should be answered in answer booklet(s).

1. **PLEASE start the answer to EACH question on a NEW PAGE.**
2. **Keep your phone(s) switched off at the front of the examination room.**
3. **Keep ALL bags and caps at the front of the examination room and DO NOT refer to ANY unauthorized material before or during the course of the examination.**
4. **ALWAYS show your working.**
5. **Marks indicated in parenthesis i.e. ( ) will be awarded for clear and logical answers.**
6. **Write your REGISTRATION No. clearly on the answer booklet(s).**
7. **For the Questions, write the number of the question on the answer booklet(s) in the order you answered them.**
8. **DO NOT use your PHONE as a CALCULATOR.**
9. **YOU are ONLY ALLOWED to leave the exam room 30minutes to the end of the Exam.**
10. **DO NOT write on the QUESTION PAPER. Use the back of your BOOKLET for any calculations or rough work.**

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

SECTION A (COMPULSORY)

QUESTION ONE (30 MARKS)

a) Define;   **(10 Marks)**

    i)   Transaction Processing System

    ii) Management Information System

    iii) Decision Support System

    iv) Cloud Computing

    v) Artificial intelligence

b) State four major tasks done during the implementation stage of an organization

                                                                           (4Marks)

c) Mention four system development stakeholders and the role they play.   **(4Marks)**

d) Discuss categories of Information Systems   **(4 Marks)**

e) Explain three problems that can be encountered during system development as results of getting wrong system requirement.   **(6 Marks)**

f) Distinguish between system analysis and system design.   **(2 marks)**

SECTION B (OPTIONAL 2 OUT OF 4)

QUESTION 2   (20 MARKS)

    a) Describe four system development methodologies giving the advantages and disadvantages of each.   **(8 Marks)**

    b) State and describe the qualities of system analyst.   **(4Marks)**

    c) Information gathering is one of the major activities in systems analysis. Explain how this is achieved.   **(6Marks)**

    d) Discuss platforms which are used for large-scale cloud computing   **(4 marks)**

QUESTION THREE (20 MARKS)

a) Briefly explain the term prototyping as used in information systems development arena.

(**4 Marks**)

b) Briefly explain the reason why some information system project fails**.** (**6 Marks**)

c) What are the various areas where AI (Artificial Intelligence) can be used? (**6 Marks**)

d) What are the causes of system maintenance? (**4 Marks**)

QUESTION FOUR (20 MARKS)

a) Define:

   i. Entity Relationship Data Model (**2 marks**)

   ii. Normalization (**2 marks**)

   iii. Data Flow Diagram (**2 marks**)

b) Draw a DFD for a distance education university. The enrolment process works as follows. Students send in an application form containing their personal details and their desired course. The university checks that the course is available and that the student has necessary academic qualifications. If the course is available the student is enrolled in the course and the university confirms the enrolment by sending a confirmation letter to the student. If the course is unavailable, a rejection letter is sent to the student. (Context and level 1 DFD).

(**10 marks**)

c) Explain the role of the following in systems analysis and design: System analyst, system builders, system designer and project manager. (**4 marks**)

QUESTION FIVE (20 MARKS)

a) Explain any four characteristic /features of an information system (**4 Marks**)

b) Briefly describe four(4) advantages of using a database as opposed to the conventional application based file system (**4 Marks**)

c) Different levels of management need different form of information .Listing three levels of Management ,discuss the types of information required (**6 Marks**)

d) What is the role of management information system in alliances such as banks and airlines or banks and supermarkets? Why would such alliances be practically infeasible without information Technology? (**6 Marks**)