



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR SCIENCE INFORMATION
AND COMMUNICATION TECHNOLOGY**

2ND YEAR 1ST SEMESTER 2018/2019 ACADEMIC YEAR

MAIN CAMPUS (JAB)

COURSE CODE: ICT 3211

COURSE TITLE: SYSTEM DEVELOPMENT METHODS

EXAM VENUE:

STREAM:

DATE: DEC 2015

EXAM SESSION:

TIME: 2.00 HOURS

INSTRUCTIONS:

- 1. Answer Question 1 (Compulsory) and ANY other 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**

QUESTION ONE [30 MARKS]

- a) What is a software development methodology? (2 marks)
- b) You have received an invitation to a regional conference for Technology and Science at JOOUST in April 2017. You have been asked to do a 15 presentation on system/software development methodologies. Based on your knowledge of ICT 3211 System Development answer the following questions:
- c) Define the term “methodology”. (2 marks)
- d) State any two tools that would be required (4 marks)
- e) Briefly discuss any FOUR software/systems development methodologies (include diagrams where necessary for more points) (8 marks)
- f) Explain the roles of a system analyst (6 marks)
- g) Explain how STEPWISE REFINEMENT as analytical can be used for solving complex problem (4 marks)
- h) Explain any two critical control structures that are used in system development process (4 marks)

QUESTION TWO [20 MARKS]

- a) Explain the components/Elements of a system stating their relevance in system development (6 marks)
- b) Using appropriate syntax and a block diagram explain any two control structures in programming (4 marks)
- c) Discuss in depth Functional and non-functional requirements of systems (4 marks)
- d) Explain three different models of User Interface design [6 marks]

QUESTION 3 [20 MARKS]

- a) Explain the problems that can arise if end-users have too little involvement in an Information Systems Development project. (10 marks)
- b) Compare and contrast the ways in which TWO Information Systems Development Methodologies covered in this module involve end-users during the development lifecycle. (6 Marks)
- c) A system analyst was tasked to perform an interface analysis in the part of software development. List and explain the key factors that must be considered in carrying the above task (4 marks)

QUESTION 4 [20 MARKS]

- a) Explain the process of evaluation of software project to ensure that the best alternative decision are at when deciding on the software to be developed (4 marks)
- b) During changeover to a new system, a strategy needs to be adopted in order to transition to the new system. Briefly list and explain **THREE** such strategies (6 marks)
- c) Explain the following principles of computing as used in software development.
 - i. Modularity
 - ii. Abstraction of data (4 marks)
- d) Explain system requirement specification(SRS) (6 marks)

QUESTION 5 [20 MARKS]

- a) Identify potential problems you might have to deal with in absorbing the new staff into the existing IT function, and discuss how he could try to minimize the impact of these. (8 marks)
- b) Outline the main objectives of using 'Agile' Systems Development Methodologies (SDMs), rather than 'heavyweight' methodologies. (6 marks)
- c) Identify 4 risks which the developers of these systems might encounter, and suggest how these might be managed. (6 marks)