



*(Knowledge for Development)*

# **KIBABII UNIVERSITY COLLEGE**

**A CONSTITUENT COLLEGE OF  
MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS**

**2014/2015 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER**

**MAIN EXAMINATION**

**FOR THE DEGREE OF**

**BACHELOR OF SCIENCE COMPUTER SCIENCE & INFORMATION  
TECHNOLOGY**

**COURSE CODE: CSC 222**

**COURSE TITLE: SYSTEM ANALYSIS AND DESIGN**

**DATE: 28<sup>th</sup> APRIL, 2015**

**TIME: 8.00AM- 10.00AM**

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## **INSTRUCTIONS TO CANDIDATES**

Answer Question One in Section A and Any other TWO (2) Questions in Section B

TIME: 2 Hours

This Paper Consists of 3 Please Turn Over.



**Question one (30 marks)**

- a. What is the aim of any Information Systems and define the two broad types of Information Systems. 6 marks
- b. Give any four characteristics of a system 4 marks
- c. Using a diagram give the symbols used for flow chart drawing. 6 marks
- d. Explain the difference between return on investment and payback period. Why might you need to know both in order to decide which of two different development alternatives represents a better investment for a particular organisation? 6 marks
- e. Give two examples of non-functional requirements, and for each suggest a measure that could be used to test whether a system satisfies the requirement. 4 marks
- f. Define at least FOUR elements of a system. 4 marks

**Question two (20 marks)**

- a. Data flow diagrams are the most commonly used way of documenting the process of current and required systems. Define and give the components of the DFDs. 5 marks
- b. Explain the rules for drawing good data flow diagram. 15 marks

**Question three (20 marks)**

- a. Differentiate between the following: 6 marks
  - i. Physical system and logical system
  - ii. Schematic model and static system model
- b. Give and explain three elements of a feedback of an open system. 4 marks
- c. Define the following terms as used in systems theory.
  - i. Decomposition and how does it assist a system analyst? 4 marks
  - ii. Modules 2 marks
  - iii. Coupling 2 marks
  - iv. Cohesion 2 marks

**Question four (20 marks)**

- a. List and explain the different classes of information system. 6 marks

- b. An important aspect of systems analysis is the fact finding stage depending on the circumstances and the system being studied. Describe THREE methods of fact finding that can be used giving two circumstances in which each may be suitable. 6 marks
- c. With the help of a diagram show and explain the stages of a system development life cycle (SDLC) 8 marks

**Question five (20 marks)**

- a. Describe the structured walkthrough process. What roles need to be performed during a walkthrough? Where is it applicable? 6 marks
- b. Identify and explain levels of system testing. 3 marks
- c. Outline any FOUR functions of project management 4 marks
- d. Explain some of the benefits that can accrue from a project. Give at least three benefits of either of the categories. 7 marks