**W1-2-60-1-6**

##  JOMO KENYATTA UNIVERSITY

**OF**

**AGRICULTURE AND TECHNOLOGY**

# University Examinations 2014/2015

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY/BACHELOR OF COMMERCE/BACHELOR OF SCIENCE IN COMPUTER SCIENCE/BA**

**BIT 2112/HBC 2124/ICS 2210 : SYSTEM ANALYSIS AND DESIGN**

**DATE: AUGUST 2015 TIME: 2 HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER**

 **TWO QUESTIONS.**

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**QUESTION ONE (30 MARKS)**

(a) Explain the elements that make up a system. [5 marks]

(b) Differentiate between the following types of systems:

1. Deterministic and probabilistic. [2 marks]
2. Open vs. closed system. [2 marks]

(c) Discuss the causes of system project failure despite efforts to reduce failure.

 [7 marks]

(d) After a preliminary study, terms of reference document is generated. Explain the contents of TOR. [6 marks]

(e) Discuss system changeover methods used during file creation and conversion.

 [4 marks]

(f) Explain four fact finding techniques that are used to determine system requirements. [4 marks]

**QUESTION TWO (20 MARKS)**

(a) Highlight steps followed in prototyping model. [5 marks]

(b) Describe briefly the stages of software development process using Muterfull model. [9 marks]

(c) Discuss using a diagram in each case, three types of flowcharts used as fact recording tools. [6 marks]

**QUESTION THREE (20 MARKS)**

(a) Explain the difference between logical design and physical design as used in system design. [2 marks]

(b) Discuss any four stages of software testing. [8 marks]

(c) Explain the importance of system documentation. [5 marks]

(d) Explain five types of system maintenance. [5 marks]

**QUESTION FOUR (20 MARKS)**

(a) Explain three types of system evaluation. [3 marks]

(b) Explain the role of validation and verification process in ensuring software quality. [4 marks]

(c) Explain the following alternative methodologies to system life cycle:

1. SSADM [2 marks]

 (ii) Component based system engineering. [2 marks]

 (iii) Incremental delivery. [2 marks]

 (iv) JAD [2 marks]

(d) Explain reasons why post implementation review is carried out. [5 marks]

**QUESTION FIVE (20 MARKS)**

(a) You have been asked to develop a system for JKUAT admissions. Explain the contents of a feasibility study report that you will generate during a feasibility study. [8 marks]

(b) Discuss in chronological order the stages involved in system development life-cycle. [7 marks]

(c) Explain reasons why post-implementation is carried out in a system.

 [5 marks]