



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS  
2018/2019 ACADEMIC YEAR**

**SCHOOL OF SCIENCE AND INFORMATION SCIENCES  
DEPARTMENT OF COMPUTING AND  
INFORMATION SCIENCES  
SECOND YEAR FIRST SEMESTER  
EXAMINATION  
FOR DEGREE IN INFORMATION SCIENCES**

**COURSE CODE: INS 2103**

**COURSE TITLE: SYSTEMS ANALYSIS AND DESIGN**

**DATE: 6<sup>TH</sup> DECEMBER 2018**

**TIME: 0830 - 1030HRS**

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**INSTRUCTION TO CANDIDATES**

- i. Question ONE in section A is compulsory
- ii. Answer any OTHER Two (2) Questions from section B
- iii. Use diagrams, example and illustration where necessary
- iv. All questions in section B have equal marks

## SECTION A: COMPULSORY [30 MARKS]

### QUESTION ONE

- i. The term "System" is derived from the Greek word systema. Define [2 marks]
- ii. Explain the following basic elements of the system:
  - a. " Resources [2 marks]
  - b. " Procedures [2 marks]
  - c. " Data/Information [2 marks]
  - d. " Processes [2 marks]
- iii. Distinguish between the following systems classification
  - a. Physical or Abstract System [2 marks]
  - b. Open Closed System [2 marks]
- iv. Define the term "Information System" [2 marks]
- v. Information system can be FORMAL or INFORMAL differentiate. [4 marks]
- vi. Explain any two types of information system [4 marks]
- vii. Define the following terms
  - a. System analysis [2 marks]
  - b. System design [2 marks]
  - c. System analyst [2 marks]

## SECTION B: ANSWER ANY TWO QUESTION [40 MARKS]

### QUESTION TWO

- a. discuss any Two categories of end users of the system [4 marks]
- b. Distinguish between ***Process-centered methodologies*** and ***Data-centered methodologies*** [4 Marks]
- c. Distinguish between *Agile Development* and *Extreme Programming*  
*Extreme programming (XP)* [4 marks]
- d. Explain the following documenting tools, which are available to the analyst.
  - i. Decision trees, [2 Marks]

- ii. Data Dictionary, and [2 Marks]
- iii. The CASE tools. [2 Marks]
- e. Explain the term “*Data Passing*” as used in modularization [2 Marks]

### QUESTION THREE

- a. Outline the six major Activities involved in any Life cycle Model [6 marks]
- b. The feasibility of the system is evaluated on the three main issues, state and explain [6 Marks]
- c. Implementation is a critical phase in any life cycle model discuss [4 marks]
- d. Explain each of the following and give the conclusion on the best option stating why
  - i. Change-over [2 Marks]
  - ii. Pilot run [2 Marks]

### QUESTION FOUR

- a. Distinguish between Temporal and Logical Cohesion as used in structuring module [2 Marks]
- b. Define the term “Prototype” as used in system development [2 marks]
- c. Define the following terms as used in System Design
  - i. Methodology [1 Mark]
  - ii. Tools [1 Mark]
- d. Outline the four advantages of iterative prototyping life cycle model [2 marks]
- e. Explain why OO Methodology is the best method in system analysis and design process [4 marks]
- f. Explain the four basic steps of system design using Object modeling [4 marks]
- g. Explain the following as used in OO methodology under implementation
  - i. Functional model [2 marks]
  - ii. Dynamic model [2 marks]

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