



MAASAI MARA UNIVERSITY

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

**SCHOOL OF SCIENCE AND INFORMATION
SCIENCES**

**DEPARTMENT OF COMPUTING AND
INFORMATION SCIENCES
DEGREE IN INFORMATION SCIENCES**

COURSE CODE: COM 2103

**COURSE TITLE: SYSTEMS ANALYSIS AND
DESIGN**

DATE: 25TH APRIL 2019

TIME: 8.30-10.30AM

INSTRUCTIONS TO CANDIDATES

**ANSWER ALL QUESTIONS IN SECTION A AND ANY 2 QUESTIONS IN
SECTION B**

This paper consists of 3 printed pages. Please turn over.

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* [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. Notation [1 Mark]
 - ii. Methodology [1 Mark]
 - iii. Tools [1 Mark]
- d. Outline the four advantages of iterative prototyping life cycle model [4 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]
- h. Define the term “Attribute” as used in E-R model [1 Mark]

//END