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

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 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.   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]

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