



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018

**FIRST YEAR SECOND SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY**

CITY CAMPUS

CIT 114: SYSTEMS ANALYSIS AND DESIGN

Date: 16th June, 2018

Time: 12.00 - 3.00pm

INSTRUCTIONS:

- Answer Question ONE and any other TWO.



QUESTION ONE(30 MARKS)

- a) Define a system (2 marks)
- b) State and explain any four components of an information system (8 marks)
- c) Differentiate the following terms
 - i) Deterministic and probabilistic systems (4 marks)
 - ii) Open system and closed system
- d) Discuss any closed system (6 marks)
- e) Define the following terms;
 - a) System
 - b) System analysis
 - c) System design
 - d) System analyst
 - e) Information (10marks)

QUESTION TWO(20 MARKS)

- a) List and explain the stages of SDLC (10 marks)
- b) Explain the following in the context of system analysis and design (10 marks)
 - i) Prototyping
 - ii) Case tools
 - iii) Decision tables
 - iv) System analyst
 - v) Fact finding

QUESTION THREE(20 MARKS)

- a) Differentiate verification and validation (2 marks)
- b) List and explain the FOUR system-change over methods giving an advantage and disadvantage in each (12 marks)
- c) Describe the following feasibility studies:
 - i) Technical
 - ii) Operational
 - iii) Economical

QUESTION FOUR(20 MARKS)

- a) Explain any three reasons as to why systems projects are initiated (6 marks)
- b) Outline any three reasons as to why systems projects fail (3 marks)
- c) Discuss the following fact finding techniques, highlighting one advantage and disadvantage of each:
 - i) Questionnaires
 - ii) Interviews
 - iii) Observation (9 marks)
- d) Differentiate system security and system integrity (2 marks)

QUESTION FIVE(20 MARKS)

- a) Define the following terms (2 marks)
 - i) Boundary
 - ii) Feedback
- b) Differentiate physical and logical design (2 marks)
- c) Describe the elements of DFD and draw symbols to represent them (8 marks)
- d) State and explain four types of maintenance carried out over the life time of an information system (4 marks)
- e) Describe any two shortcomings of the traditional system development life cycle (SDLC) (4 marks)