

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

## JOMO KENYATTA UNIVERSITY

**OF AGRICULTURE AND TECHNOLOGY**

# University Examinations 2016/2017

**YEAR ONE SEMESTER TWO EXAMINATIONS FOR THE DIPLOMA IN INFORMATION TECHNOLOGY**

**DIT 0203: SYSTEMS ANALYSIS AND DESIGN**

**DATE: APRIL 2017 TIME: 1½ HOURS**

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

**QUESTION ONE (30 MARKS)**

a) What is a system (2 marks)

b) List at least six elements of a system (3 marks)

c) Differentiate between a closed and an open system (4 marks)

d) List the major phases of the system development life cycle (7 marks)

e) Discuss the main objective of feasibility study (4 marks)

f) Describe testing levels and methods for testing when building information systems (10 marks)

**QUESTION TWO (20 MARKS)**

a) What are the major issues that should be raised when the system designer design the system process (4 marks)

b) Distinguish between logical and physical design phase. What are the processes that take place during both phases (6 marks)

c) What are the main components of a data flow diagram (DFD? Illustrate your answer by means of symbols (10 marks)

**QUESTION THREE (20 MARKS)**

a) What are the similarities between structural systems analysis and object oriented analysis methods (4 marks)

b) Differentiate between a functional and a non-functional requirement in a requirement catalogue (6 marks)

c) What do you understand by structure system analysis (4 marks)

d) Discuss how system analysis is related to system design process

(6 marks)

**QUESTION FOUR (20 MARKS)**

a) Discuss the THREE stages of object oriented life cycle (6 marks)

b) What is software phototyping (2 marks)

c) Discuss the steps involved in software phototyping (8 marks)

d) Write short notes on below system analysis modeling tools;

i) Data flow diagram

ii) Functional diagram

iii) Class diagram

iv) Object diagram (4 marks)

**QUESTION FIVE (20 MARKS)**

a) Who is a system analyst (2 marks)

b) Discuss the key roles of a system analyst (8 marks)

c) Differentiate between a questionnaire and interview (6 marks)

d) Discuss FOUR advantages of a waterfall model (4 marks)