



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2020 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER AND LIBRARY SCIENCE

REGULAR PROGRAMME

DIT 013: SYTEM ANALYSIS AND DESIGN

Date: APRIL 2020

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

Q1. a) Give a brief description of the following terms as used in system Analysis and Design

- i. Systems Analysis
- ii. Information system
- iii. Stake holders
- iv. System owners
- v. Processes

(10 Marks)

b) Define joint project planning and give a brief description of its role in project management

(4 Marks)

c) Describe how Rapid Application Development works

(2 Marks)

d) Describe data modelling and explain at least two of its benefits

(4

Marks)

e) Highlight at least four skills required by a systems analysts (4 Marks)

f) Explain six ways in which success of a project is measured (6 Marks)

Q2. a) Highlight five classes of information systems as used in SAD

(10 Marks)

b) Define system modelling and provide a brief description of what differentiates logical and physical system models (6 Marks)

c) Explain Cost and Effect Analysis (2 Marks)

d) Describe two reasons for doing end user training (2 Marks)

Q3.a) A stake holder is any person who has an interest in an existing information system. Stakeholders can be technical or non-technical workers. Describe at least five stakeholders of an information system (10 Marks)

b) Discuss at least four types of System Design approaches (4 Marks)

c) Give a brief description of the following terms as used in SAD

i. Data and Information

ii. System designers and system builders. (4 Marks)

d) What is the difference between (2 Marks)

- Accelerated analysis
- Prototype

- Q4. a) A prototype is a small scale incomplete but working sample of a desired system. Prototypes cater to the “I know what I want when I see it” way of thinking that is characteristic of many managers and users. Describe at least five advantages and five disadvantages of prototypes. **(10 Marks)**
- b) Differentiate between logical and physical data flow diagrams and explain how physical data flow diagrams are used to model an information system’s architecture. **(6 Marks)**
- c) Explain data modelling and provide at least two of its benefits **(4 Marks)**
- Q5. a) Describe legacy systems and give two advantages and two disadvantages associated with it. **(6 Marks)**
- b) Differentiate between logical and physical data flow diagrams and explain how physical data flow diagrams are used to model an information system’s architecture. **(6 Marks)**
- c) Differentiate between PERT and GANTT charts as project management tools **(4 Marks)**
- d) Define joint project planning **(1 Marks)**
- e) Discuss at least three types of System Design approaches **(3 Marks)**

END