



Scott Christian UNIVERSITY

SCHOOL OF PROFESSIONAL STUDIES

BACHELOR OF INFORMATION COMMUNICATION TECHNOLOGY/ BACHELOR OF BUSINESS INFORMATION TECHNOLOGY

UNIT CODE/NAME: BCT 217/BBIT 212: SYSTEMS ANALYSIS AND DESIGN

September- December 2019/2020 End Semester Exam

- Time: 2 Hours

Instructions: Answer Question ONE (Compulsory) and any other TWO questions.

QUESTION ONE

(a) Define the following terms:

- (i) System
- (ii) Analysis
- (iii) Design

(3 Marks)

(b) Describe any two categories of computer-based systems.

(4 Marks)

(c) Outline four characteristics of good system.

(4 Marks)

(d) (i) Briefly explain four tasks that are performed during the systems analysis stage

(8 Marks)

(ii) Outline five skills that a systems analyst must possess.

(5 Marks)

(e) In as far as software development is concerned, differentiate between the following:

- (i) Scope vs environment
- (ii) Logical vs physical design
- (iii) Unit vs system testing

(6 Marks)

QUESTION TWO

(i) State what you understand by a software development methodology.

(3 Marks)

(ii) Briefly describe following software development methodologies:

- (a) Structured methods:
- (b) Information Engineering:
- (c) Soft systems:
- (d) Object oriented model:

(8 Marks)

(iii) With suitable illustrations, describe FOUR system conversion strategies. (4 Marks)

QUESTION THREE

(i) Define the Software Development Lifecycle (SDLC).

(2 Marks)

- (ii) Briefly explain any five stages of the SDLC. (5 Marks)
- (iii) With the use of appropriate diagrams, describe the following models used in SDLC, giving the strengths and weaknesses of each, as well as a suitable application area of each.
 - (a) Waterfall or linear model
 - (b) Prototyping
 - (c) Evolutionary or spiral model
 - (d) The V- model(8 Marks)

QUESTION FOUR

- (a) State what you understand by process modeling. (2 Marks)
- (b) (i) Using suitable notations, provide the meaning of any three symbols used in DFDs (6 Marks)
- (ii) Draw a suitable DFD to depict the following case scenario:
When an invoice is received from a supplier, it is checked against a file of authorized purchases. If the invoice does not match an authorized purchase, then a querying letter is prepared and returned back with the invoice to the supplier. If the invoice reconciles, a payment authorization is made out. A cheque is then prepared and sent to the supplier, and the invoice and the authorization are filed. (7 Marks)

QUESTION FIVE

- a) Describe any **FOUR** data collection tools (4 Marks)
- b) Explain the strengths, weaknesses and a suitable application area of each of the tools you have described in (a), above (11 Marks)