

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF DIPLOMA IN COMPUTER SCIENCE

COSC 0130: SYSTEM ANALYSIS AND DESIGN

STREAMS: DIP.COMPSCI Y1S2

TIME: 2 HOURS

DAY/DATE: TUESDAY 3/12/2019

11.30 A.M – 1.30 P.M

INSTRUCTIONS:

- Answer question **ONE** and **TWO** other questions
- Do not write anything on the question paper
- This is a **closed book exam**, No reference materials are allowed in the examination room
- There will be **NO** use of mobile phones or any other unauthorized materials
- Write your answers legibly and use your time wisely.
- Marks are awarded for clear and concise answers.

SECTION A (Answer ALL questions)

QUESTION ONE (30 Marks)

- a) Differentiate between structured and object-oriented analysis [4Marks]
- b) State FOUR characteristics of a good system. [4Marks]
- c) Explain the two types of software product [4Marks]
- d) State TWO components of CASE tools. [2Marks]
- e) Differentiate between physical and logical Data Flow Diagrams [4Marks]
- f) Define Test Suite in system analysis and design [2Marks]

- g) List THREE types of system maintenance [3Marks]
- h) List THREE factors affecting system maintenance cost [3Marks]
- i) List FOUR types of system documentation [4Marks]

**SECTION B (ANSWER ANY TWO QUESTIONS)
QUESTION TWO (20 MARKS)**

- a) State and explain SEVEN major steps of the systems development lifecycle [14Marks]
- b) Discuss THREE software development methodologies [6Marks]

QUESTION THREE (20 Marks)

- a) For a quality functional software to be developed within the budget and the scheduled time it has to go through several tests known as feasibility study to check its workability and whether it meets the user requirements. Discuss FOUR main types of feasibility studies to be conducted. [8Marks]
- b) CASE tools are used by software project managers, analysts and engineers to develop software system. Discuss FIVE types of CASE tools. [10Marks]
- c) List TWO benefits of physical Data Flow Diagrams in system design [2Marks]

QUESTION FOUR (20 Marks)

- a) Mail order catalogue system allows people to shop from home. When a customer receives the catalogue and wants to buy something, they can telephone, fax or email their order to the company. The company gets the order and sends the goods and an invoice. When the customer receives the goods with a delivery note, they send payment and receive a receipt for their payment. Draw a Data Flow Diagram for a Mail order catalogue system. [10Marks]

- b) Testing is the process of evaluating a system or its component(s) with the intent to find whether it satisfies the specified requirements or not. Discuss FIVE types of system testing. [10Marks]

QUESTION FIVE (20 Marks)

- a) Training of system users ensures that the system works as intended. Discuss any THREE training methods [6Marks]
- b) State and explain FOUR system changeover strategies. [8 Marks]
- c) What do you understand by the term “System security”? [2Marks]
- d) Quality Assurance is the review of system or software products and its documentation for assurance that system meets the requirements and specifications. Discuss FOUR level to certify a system. [4Marks]
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