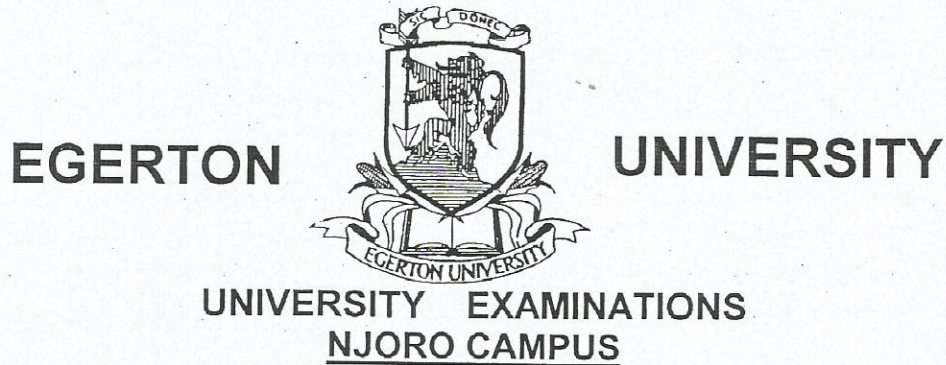


COMP 313



FIRST SEMESTER 2010/2011

THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE

COMP 313 – COMPUTING I

STREAM: Bsc Computer Science

TIME: 2 HRS

DAY: WEDNESDAY, 3.00 – 5.00 P.M.

DATE: 08/12/2010

Instructions: Answer Question ONE (1) any TWO (2) questions

Question ONE. [Compulsory]. (30 Marks)

a) Distinguish between (2 Marks each)

- i) Programming language and a computer program
- ii) Top_Down and bottom-up programming methods
- iii) Mutable and Optical storage
- iv) Keyboard and Video Display Unit (VDU)

b) Define

(1Mark each)

- i) Algorithm
- ii) Semantics
- iii) Syntax
- iv) Structured programming
- v) Computer Data Storage
- vi) Volatility of the memory
- vii) Memory Latency
- viii) Von Neumann model

c) State the steps involved in solving a computer problem

(3 marks)

d) Mention the four parts that a problem is broken down to during problem definition and analysis.

(2 marks)

- e) In the following problems, Identify the problem, input and expected output. (3Marks)
 - i) A program to calculate the area of a square.
 - ii) A program to get the average marks attained in a class of ten students
 - iii) A program to print the 50 numbers beginning from 0 to 50.

Question TWO (2). [20 Marks]

- a) Mention four properties of an algorithm (1Marks each)
- b) Explain four methods of representing an algorithm. (2 Marks each)
- c) In each of the method mentioned in 2(b), give two advantages and two disadvantages. (2Marks each)

Question THREE (3). [20 Marks]

- d) Explain 5 advantages of modular programming (2 Marks each)
- e) Explain atleast three steps involved in testing a modular program (2 Marks each)
- f) Explain any two control structures used during program development (2 Marks each)

Question FOUR(4). [20 Marks]

- a) Mention and explain (with an example where possible) the three pillars of Object Oriented Programming (2 marks each)
- b) With two examples each , mention four scalar data types used in computer programming (2Mark each)
- c) Explain three computer language levels and give atleast an advantage for each (2Marks each)

Question FIVE (5). [20 Marks]

- a) With two examples in each case, mention the five (5) major sub-division of the computer's hardware (1Marks each)
- b) Explain any five characteristic of computer storage devices (2Marks each)
- c) Match the following types of memory with the correct classification they fall under (½ Mark each)

Memory Classification

- i) Primary storage
- ii) Secondary storage
- iii) Off-line storage
- iv) Tertiary storage

Memory Types

- i) Registers
- ii) Random Access Memory
- iii) CD-ROM
- iv) Hard disk
- v) Flash disk
- vi) Tape drive
- vii) Cache Memory
- viii) DVD-RAM
- ix) Ultra Density Optical
- x) SDRAM
