



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR SCIENCE IN SECURITY

AND FORENICS

1ST YEAR 1ST APRIL 2015/2016 ACADEMIC YEAR

MAIN CAMPUS

COURSE CODE: IIT 3111

COURSE TITLE: INTRODUCTION TO COMPUTER SYSTEMS

EXAM VENUE:

STREAM:

DATE: 21/04/16

EXAM SESSION: 2.00 – 4.00 PM

TIME: 2.00 HOURS

INSTRUCTIONS:

- 1. Answer Question 1 (Compulsory) and ANY other two questions.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

QUESTION ONE (30 MARKS)

- a) Identify three tasks performed by a network server apart from the storage of users' files.(3 Marks)
- b) Explain two precautions that a student should take when using USB drives for saving important work. (4 Marks)
- c) Describe two input devices that would be used in a pilot training computer simulation (4 Marks)
- d) Differentiate between SRAM and DRAM and with reasons state which one is suitable for making cache memory (4 Marks)
- e) List any two pointing devices, which can be used to input data into computers and state the appropriate areas of application. (4 Marks)
- f) Describe one advantage and one disadvantage of sending the images as bitmapped files instead of vector graphics files. (4 Marks)
- g) Differentiate between computer Architecture and Computer Organization. (4 Marks)
- h) Explain the term Device drivers (3 Marks)

QUESTION TWO (20 MARKS)

- a) The main role of the CPU is to execute instructions. Explain the steps involved during the execution of an instruction. (8 Marks)
- b) Explain the following terms and state how they affect system performance.
 - i. Bus width (2 Marks)
 - ii. Word size (2 Marks)
- c) Briefly explain the boot-up process and state how you can troubleshoot if the process was not successful. (8 Marks)

QUESTION THREE (20 MARKS)

- a) Define the term Hexadecimal (2 Marks)
- b) Convert the following decimal numbers to binary. (5 Marks)
 - i. 33
 - ii. 5
 - iii. 23
 - iv. 222
 - v. 34
- c) Convert the following Hexadecimal numbers to binary. (5 Marks)
 - i. 00000021
 - ii. 00000016
 - iii. 0000002D
 - iv. 0000000C

- d) Name and explain any two Encoding Systems used by computers today. (8 Marks)

QUESTION FOUR (20 MARKS)

- a) Explain the meaning of the following terms within the context of computer systems
- i. Peripherals devices
 - ii. Virtual storage
 - iii. ROM BIOS
 - iv. Co-Processor
 - v. Motherboard (5 Marks)
- b) i) What is a system bus? (3 Marks)
- ii) Explain the three major components of a system bus. (3 Marks)
- c) Briefly discuss THREE major file organization methods and for each explain the access method applicable. (9 Marks)

QUESTION FIVE (20 MARKS)

- a) There are three (3) main types or approaches towards systems maintenance. Briefly describe these approaches (9 Marks)
- b) List FOUR reasons why computer systems need secondary storage. Would a system with magnetic disk and optical storage system meet all the storage requirements? (9 Marks)
- c) What causes a hardware conflict? (2 Marks)