



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL INFORMATICS AND INNOVATIVE SYSTEMS
UNIVERSITY EXAMINATION FOR THE BACHELOR'S DEGREE
1ST YEAR 1ST SEMESTER 2013/2014 ACADEMIC YEAR
CENTRE: KISII

COURSE CODE: SCS 101

COURSE TITLE: INTRODUCTION TO COMPUTERS

EXAM VENUE:

STREAM: BSc

DATE: 10/12/2013

EXAM SESSION: 2.00 – 4.00 PM

TIME: 2 HOURS

Instructions:

- 1. Answer question 1 (Compulsory) and ANY other 2 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

- a) i) Define the term computer (1mark)
- ii) Explain the functions of a computer system (4 marks)
- b) Distinguish the following computer terms
- i) Data and Information (2 marks)
- ii) Hardware and software (2 marks)
- c) What do you understand by the term 'Operating system'? Give an example (3marks)
- d) Differentiate between system software and application software and give an example in each case (4 marks)
- e) Outline any four input devices (2 marks)
- f) A student is typing an assignment using a computer and has already saved the document as **Assignment.doc**. As he continues to edit and add more answers, he is expected to click SAVE icon on the toolbar or press CTRL+S at intervals. Why is this necessary? (2 marks)
- g) Solve the following binary subtraction problems using the complement method:
- i) $11001101_2 - 10101010_2$ ii) $100100_2 - 11101_2$ (10 Marks)
- h) Convert the decimal numbers into binary numbers
- i. 117
- ii. 60 (4 marks)
- g) Outline the function of the ALU (1 mark)

QUESTION TWO

- a) Briefly discuss the following computer memories
- i. Random Access Memory (RAM)
- ii. Read Only Memory (ROM) (4 marks)
- b) Discuss any three advantages of computers (3 marks)
- c) State and explain two types of Non-impact printers (4 marks)
- d) What is a computer virus? (2 marks)
- e) State two advantages of a computer network (2 marks)
- f) Memory management is important in operating systems. Discuss the main problems that can occur if memory is managed poorly. (5 Marks)

QUESTION THREE

- a) Explain the components of central processing Unit (CPU) (6 marks)
 - b) Outline five classifications of computers based on processing power (5 marks)
 - c) What are the five major activities of an operating system in regard to file management? (5 Marks)
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- a) Convert the binary numbers into decimal numbers
 - i) 101010
 - ii) 11111 (4 marks)

QUESTION FOUR

- a) Discuss the functions of the operating system in the computer (6 marks)
- b) What is a computer network? (1 mark)
- c) How do modern computers represent signed integer values? Why? [5 marks]
- d) Discuss any three types of computer networks (6 marks)
- e) Define the following terms
 - i. Chipset
 - ii. Data bus (2 marks)

QUESTION FIVE

- a) Discuss the four major functions of the control unit (4 marks)
- b) State and explain the three categories of storage media (6 marks)
- c) Give any two reasons for installing an antivirus in a computer system (2 marks)
- d) Most of the operating systems used in Kenyan universities are developed by Microsoft Company. State any other three non- Microsoft operating systems which can also be used in universities (3 marks)
- e) What information does an operating system generally need to keep about running processes in order to execute them? (5 Marks)