

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS UNIVERSITY EXAMINATION FOR THE DEGREE IN INFORMATION COMMUNICATION AND TECHNOLOGY, COMPUTER SECURITY AND FORENSICS AND BUSINESS INFORMATION SYSTEM 1ST YEAR 1ST SEMESTER 2022/2023 ACADEMIC YEAR MAIN CAMPUS

COURSE CODE: ICB 3101

COURSE TITLE: INTRODUCTION TO COMPUTER SYSTEMS

EXAM VENUE: STREAM:

DATE: EXAM SESSION:

TIME:

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 1 [30 marks]

- a) Perform the following binary addition: $00110_2 + 01101_2 =$ (2 marks)
- b) Errors influence the accuracy of information. What is a transposition error? (2 marks)
- c) State any three limitations of networking. (3 marks)
- d) Differentiate between SUM and SUMIF functions as used in Microsoft Excel. (4 marks)
- e) State any three types of text alignment options available in Microsoft Word. (3 marks)
- f) State the technologies that were used in the first and second generation of computers. (2 marks)
- g) What is a slide transition effect as used in Microsoft PowerPoint Software? (2 marks)
- h) State any three types of CPU registers. (3 marks)
- i) State three advantages of solid state storage devices. (3 marks)
- j) Distinguish between turbo boosting and hyper threading as CPU technologies. (4 marks)
- k) State two advantages of high level programming languages. (2 marks)

Question 2 [20 marks]

- a) Physical topology refers to the way in which computers and other devices have been arranged in a network. Describe any three types of physical topologies. (6 marks)
- b) A computer system has four main basic functional units. Briefly describe them. (8 marks)
- c) What is user friendliness with reference to software? (2 marks)
- d) There are three types of control structures used in programming. Explain any two. (4 marks)

Question 3 [20 marks]

- a) Describe any three types of computer processing files (6 marks)
- b) Discuss four functions of an operating system. (8 marks)
- c) There are many factors that affect the usability of a website. Explain any three web design best practices and design principles. (6 marks)

Question 4 [20 marks]

- a) Describe the three main types of computer networks. (6 marks)
- b) There are different types of views that can be used in Microsoft PowerPoint. Discuss any three. (6 marks)
- c) Differentiate between relative and absolute cell referencing as used in Microsoft Excel. (4 marks)
- d) Using ones' complementation, perform the following binary arithmetic leaving your answer in binary form. 5_{10} 3_{10} = (4 marks)

Question 5 [20 marks].

- a) A translator refers to language processors that convert the source program into object code. Explain the three types of translators used in programming. (6 marks)
- b) State the three coding schemes used in data representation. (3 marks)
- c) Discuss any four internet services. (8 marks)
- d) Convert 45₁₀ to its binary equivalent. (3 marks)