



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR SCIENCE IN

INFORMATION AND COMMUNICATION TECHNOLOGY

2ND YEAR 1ST SEMESTER 2020/2021 ACADEMIC YEAR

SPECIAL/RESIT

MAIN CAMPUS

COURSE CODE: IIT 3112

COURSE TITLE: INTRODUCTION TO PROGRAMMING

EXAM VENUE:

STREAM: ICT

DATE:

EXAM SESSION:

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) Define the following terms as used in programming
- (i.) Structured programming
 - (ii.) Algorithm
 - (iii.) Pseudocode
 - (iv.) variable
 - (v.) constant
- (5 marks)**
- b) Describe the stages of program development **(6 marks)**
- c) List the six steps of desk checking process **(6 marks)**
- d) Define the term control structure **(3 marks)**

QUESTION TWO [20 MARKS]

- a) List down three approaches of solving a programming problem **(3 marks)**
- b) From the three approaches listed above, describe how each works using a clear example in each approach to illustrate your answer **(9 marks)**
- c) How do you create an algorithmic solution to a problem **(4 marks)**
- d) Using examples, illustrate the fundamental principles guiding the use of variables and constants **(4 marks)**

QUESTION THREE [20 MARKS]

- a) Explain what is a data type in programming and give examples **(6 marks)**
- b) Functions typically differ from language to language and are typically listed in a programming reference guide. List and explain the typically available functions. **(10 marks)**
- c) State two main reasons why comments are used in programming **(4 marks)**

QUESTION FOUR [20 MARKS]

- a) Outline the stages of developing a working program **(8 marks)**
- b) What are the importance of compiling and linking a program **(4 marks)**
- c) List four types of errors encountered while programming in C and in each case indicate what the cause of the error is and a possible way of overcoming it. **(4 marks)**

- d) Outline the difference between local and global variables **(4 marks)**

QUESTION FIVE [20 MARKS]

- a. What are the features of structured programming methodologies? Explain. **(8marks)**
- b. To produce a program based on a solution to a problem, the programmer must first analyze the requirements of the problem. One way to do this is to split the problem into four parts. List and describe these parts **(8 marks)**
- c. Instead of using a compiler, which translates the program all at once, you can use an interpreter. Discuss and state their differences **(4 marks)**