JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN ACTURIAL SCIENCE WITH IT

1ST YEAR 2ND SEMESTER 2023/2024 ACADEMIC YEAR

MAIN CAMPUS

COURSE CODE: WAB 2110

COURSE TITLE: PROGRAMMING METHODOLOGIES

EXAM VENUE: LR 7   **STREAM:**

DATE: 30/04/2024   **EXAM SESSION: 14.00 – 16.00 PM**

TIME: 2 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 1 [30 marks]

a) Explain what the term programming methodology means **(4 marks)**

b) Describe the difference between decision structures and selection control structures **(4 marks)**

c) Explain the difference between a compiler and an interpreter **(4 marks)**

d) Describe the characteristics of a good and correct algorithm **(4 marks)**

e) What are the problems posed by developing a monolithic solution to a real-life problem? **(4 marks)**

f) Explain the reasons why it is prudent to have a clear problem statement. **(4 marks)**

g) Describe the types of errors that can crop up in a program **(6 marks)**

Question 2 [20 marks]

a) Discuss the advantages of modular programming offers a programmer in solving a problem **(10 marks)**

b) Discuss the advantages an algorithm offers to a programmer is their quest of solving a problem. **(10 marks)**

Question 3 [20 marks]

a) Discuss the characteristics of a good program. **(10 marks)**

b) Discuss the tips one would use to crate proper identifier names **(10 marks)**

Question 4 [20 marks]

a) Discuss the different types of programming methodologies prevalent among software developers **(10 marks)**

b) Discuss the pointers one would use in identification of modules in a software **(6 marks)**

c) Discuss the two approaches to code optimization **(4 marks)**

Question 5 [20 marks]

a) Discuss some of the guidelines for creating documents **(10 marks)**

b) Discuss some of the important documents that a software is associated with. **(10 marks)**