



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF MATHEMATICS AND ACTUARIAL SCIENCE

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN

ACTUARIAL SCIENCE WITH IT

1ST YEAR 1ST SEMESTER 2024/2025 ACADEMIC YEAR

MAIN CAMPUS

COURSE CODE: ITB 9104

COURSE TITLE: PROGRAMMING IN PASCAL

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) Write the program structure that every pascal program has (6 marks)
- b) Write a code that would print the word “Hello World!” (6 marks)
- c) Elaborate the difference between a function and a procedure (4 marks)
- d) Describe the differences between *Read*, *ReadKey* and *Readln* (6 marks)
- e) Describe the difference between *type* declaration and *var* declaration (4 marks)
- f) State the character sets that Pascal consist of (4 marks)

Question 2 [20 marks]

- a) Discuss the features of Pascal language (12 marks)
- b) Discuss the reasons why Pascal has grown in popularity in the teaching and academics arena (8 marks)

Question 3 [20 marks]

- a) Write a code that makes use of the Enumerated variables that when its executed produces the following output:
Which drink do you want?
You can drink lime juice (10 marks)
- b) Write a code that makes use of the subrange variables that would aid a lecturer grade Actuarial and IR student’s exams (10 marks)

Question 4 [20 marks]

- a) With the aid of a diagram, illustrate the general form of a typical decision-making structure found in pascal (5 marks)
- b) With the aid of a diagram, illustrate the general form of a loop statement found in most of the programming languages (5 marks)
- c) Write a while do loop code that would output the values from 11 to 22 (10 marks)

Question 5 [20 marks]

- a) Write a function code that would compare three values and output the max value (10 marks)
- b) Write a procedure code that would compare three values entered by a user and gives the minimum value (10 marks)