



TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN COMMUNICATION & TECHNOLOGY (DICT 13M)

ECS 2108: PROGRAMMING METHODOLOGY

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2013

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Attempt question **ONE** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **THREE** printed pages

Question One (Compulsory)

- a) State and explain any **FOUR** character escape sequences used in C programming. (4 marks)
- b) Outline any **FOUR** identifier naming conventions used in C programming. (4 marks)
- c) Explain the use of the most important function used in C programming. What is its name? (2 marks)
- d) Differentiate between a function and a procedure. Give **ONE** example in each case. (4 marks)
- e) Describe how computer stores character data in a storage device or in memory. (4 marks)
- f) State and briefly explain any **TWO** numbering systems (2 marks)
- g) What is a format specifier? List **FOUR** format specifiers used in C programming language. (2 marks)
- h) Using an example in each case, describe the components of a computer system. (8 marks)

Question Two

- a) Differentiate between a statement and an expression (4 marks)
- b) Differentiate between high-level programming language and low level programming languages (4 marks)
- c) Explain the result of the following expression $5 + 10 - 2$ (3 marks)
- d) Differentiate between exit () and return statements as used in C programming (4 marks)
- e) Differentiate between a compiler and a interpreter (4 marks)
- f) Define the meaning of a variable (1 mark)

Question Three

- a) Describe **TWO** types of programming languages. (4 marks)
- b) Differentiate between a system software and an application software. Give example in each case. (4 marks)
- c) Define the term literal (1 mark)
- d) Describe **TWO** types of comments used in C programming language (4 marks)
- e) Name and explain any **THREE** parts of a C program (6 marks)
- f) Define the term constant as used in C programming language (1 mark)

Question Four

- a) Describe any **TWO** classifications of types in C programming language. (4 marks)
- b) Convert the following to their respective numbering systems. (4 marks)
- (i) 10011111 to decimal
 - (ii) 11101010 to decimal
 - (iii) 121 to binary
 - (iv) 139 to binary
- c) What is the use of #include directives as used in C programming language? (2 marks)
- d) Differentiate between: (4 marks)
- (i) #define and #include
 - (ii) Variable and a constant
 - (iii) %operator and operator
 - (iv) AND (&&) and OR (||) operator
- e) Using two examples, define the term token as used in C programming language. (2 marks)
- f) Describe any **TWO** types of expression used in C programming language. (4 marks)

Question Five

- a) Name and describe any **TWO** character sets used in computers today. (4 marks)
- b) Differentiate between the following: (4 marks)
- (i) Machine language and assembly language
 - (ii) Break statement and continue statement
 - (iii) Encoding and decoding
 - (iv) Binary numbering system and decimal numbering system
- c) What do you understand by the term digital device and digital data (2 marks)
- d) Describe **TWO** ways in which you can define constants in C programming language. (4 marks)
- e) What is the meaning of the term portability in relation to software development? (2 marks)