



Professional Qualification in COMPUTING AND INFORMATION SYSTEMS

Level 4 Diploma

UNIT 2 – COMPUTER PROGRAMMING

Question 1

- (a) **State** the meaning of the term 'compiler'. (2 marks)
- (b) **Explain why** a compiler is used. (6 marks)
- (c) **Compare** the advantages of compiled language and interpreted languages. (12 marks)

Question 2

- (a) **State** the meaning of the term 'abstract class'. (2 marks)
- (b) **Explain why** abstract classes are used in object-orientated code. (6 marks)
- (c) **Illustrate how** the use of an abstract class can reduce coupling. Use diagrams and/or examples to support your answer. (12 marks)

Question 3

- (a) **State** the meaning of the term 'thread'. (2 marks)
- (b) **Explain why** the use of threads is useful when interacting with a GUI. (6 marks)
- (c) **Compare** threads and reactors. (12 marks)

Question 4

- (a) **State** the meaning of the term 'polymorphism'. (2 marks)
- (b) **Explain TWO** reasons **why** polymorphism is useful in object-orientated programs. (6 marks)
- (c) **Illustrate how** polymorphism works. Use diagrams and/or examples to support your answer. (12 marks)

Question 5

Illustrate the pseudocode for finding the largest value in a sorted binary tree. (20 marks)