



# Professional Qualification in COMPUTING AND INFORMATION SYSTEMS

## Level 4 Diploma

### UNIT 2 – COMPUTER PROGRAMMING

#### Question 1

- (a) **State** the main paradigm of the 'Python' programming language. (2 marks)
- (b) **Describe TWO** features of Python. (6 marks)
- (c) **Compare** the suitability of Python and Java for implementing mobile applications. (12 marks)

#### Question 2

- (a) **State** the meaning of the term 'Character'. (2 marks)
- (b) **Describe how** Character variables are used in computer programs. (6 marks)
- (c) **Explain how** Character variables in an array can be used to form a composite data type. (12 marks)

#### Question 3

- (a) **Explain** the key differences between source code and machine code. (6 marks)
- (b) **Illustrate** the process of source code compilation. Use diagrams and/or examples to support your answer. (14 marks)

#### Question 4

**Illustrate** an algorithm to find the highest value in the set {8,4,1,7} using a flow chart and trace table. Use diagrams and/or examples to support your answer. (20 marks)

#### Question 5

**Illustrate FOUR** design considerations that should be made when using object orientated programming. Use diagrams and/or examples to support your answer. (20 marks)