



# Professional Qualification in COMPUTER ENGINEERING Level 4 Diploma

## UNIT 1 – COMPUTER SYSTEMS

### Question 1

- a) **Explain** what an embedded computer is. (2 marks)
- b) **Compare TWO** roles of embedded computers in home **and** in business. (12 marks)
- c) Referring to your response to Question 1b, **discuss how** the requirements of home and business are different. (6 marks)

### Question 2

- a) **State TWO** reasons why it is important to trial computer systems. (2 marks)
- b) **Illustrate** the process of specification evaluation, with reference to functional requirement **and** design. Use examples and diagrams to support your answer. (14 marks)
- c) Referring to your response to Question 2b, **recommend** a method of requirements gathering that can **reduce** discrepancies between customer requirements and the proposed design. (4 marks)

### Question 3

- a) **Describe TWO** functions of the BIOS. (4 marks)
- b) **Compare how** a BIOS **and** an OS are configured. (12 marks)
- c) Referring to your response to Question 3b, **recommend ONE** method of troubleshooting problems with the BIOS configuration. **Justify** your answer. (4 marks)

### Question 4

- a) **Describe** the process of installing a graphics card. (4 marks)
- b) **Distinguish** between the process of installing an internal hardware component **and** installing a peripheral. (12 marks)
- c) Referring to your response to Question 4b, **suggest** which type of installation will have the **most** impact on system performance. **Justify** your answer. (4 marks)

### Question 5

- a) **Outline ONE** reason why establishing clear requirements is important when designing a new computer system for a client. (2 marks)
- b) **Compare** how a computer system can be configured to maximise performance **and** usability. (12 marks)
- c) Referring to your response to Question 5b, **recommend** which form of performance is the **most** important for an office desktop. **Justify** your answer. (6 marks)

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