



COMPUTER ENGINEERING

Level 4 Diploma

UNIT 1 – COMPUTER SYSTEMS

Question 1

- (a) Explain in detail the roles of computer systems in home and office environments. In your answer discuss the differences between these environments. (10 marks)
- (b) Illustrate, using annotated diagrams if appropriate, the roles that different hardware and software (including peripherals) play in facilitating real-time video communication over the Internet. (10 marks)

Question 2

- (a) Discuss the key differences between a supercomputer and a mainframe computer. (8 marks)
- (b) Describe how to upgrade the hardware and software for a desktop computer system, referencing potential problems that can arise in the office context. (12 marks)

Question 3

- (a) Outline the checks made by the Basic Input-Output System (BIOS) explaining how these checks can be configured. (8 marks)
- (b) Explain the key factors that need to be considered when selecting a suitable anti-virus software for a given computer system. (12 marks)

Question 4

Explain, with detail, how to set up and carry out routine maintenance of a computer system, referring to file management and back-up procedures. (20 marks)

Question 5

A music studio is looking to upgrade its computer system in order to keep up with the growing demands of their business. They would like to keep track of their finances, general office administration, be able to listen to recordings of audition sessions made by musicians, and have access to the Internet to promote their business.

Evaluate the suitability of the system design specification discussing any further actions which may need to be taken to clarify the specification. (20 marks)

Question 6

Using the music studio scenario in Question 5, produce a system design specification that will satisfy this client's needs. In your answer, identify the hardware and software (including peripherals) that will be needed. (20 marks)

Question 7

Using the music studio scenario in Question 5, explain:

- (a) The process that will be used to test and document the new computer system. (10 marks)
- (b) How the new computer system will be evaluated and monitored after installation. (10 marks)