National Council for Vocational Awards

Information Technology CITXX

(Clonmel Central Technical Institute)

Computer Architecture and Systems

C20012

Monday 17th May 1999

14:00 – 16:00

Answer all questions in Section A (40%)
Answer four questions from Section B (60%)

Time allowed: 2 hours

Section A (40 Marks)

Answer all questions. Each question carries two marks

1. Give four examples of I/O devices.
2. List two brands of Irish manufactured personal computers.
3. How many bits are in a kilobyte?
4. Which typically offers faster transmission rates, serial or parallel communications?
5. Apart from size, name one means of comparing the performance of hard disks.
6. Do computer applications execute in RAM or in ROM?
7. Name two buses commonly used in PCs.
8. Name two types of removable storage media.
9. What is the function of a network interface card (NIC)?
10. What is the advantage of using direct memory access (DMA)?
11. Convert 1101 0110 to decimal.
12. What do the letters ASCII stand for?
13. What device translates analogue telephone signals to digital computer signals?
14. List two functions of an operating system.
15. Name two brands of network operating system (NOS) commonly available today.
16. What do the letters CLI stand for?
17. What is the purpose of virtual memory?
18. What is the purpose of the registry in the Windows range of operating systems?
19. List two benefits of e-mail over traditional communications methods.
20. What is the purpose of the Data Protection Act?

Section B (60 Marks)

Answer any four questions. All questions carry equal marks

1 (a) Name two types of non-impact printer and explain how each type functions.
(b) Explain what OCR is and how it might be used in a "paperless office". What other hardware and software is needed, if any.

2 Because of branding of such products as the Pentium much is made of the CPU in the modern PC. However, there are several other factors that seriously affect overall system performance and throughput. Name at least three other factors explaining how throughput is affected by each.

3 (a) Explain how magnetic disks work. Provide a diagram in support of your explanation.
(b) There are two main types of hard-disks used in PCs. What are they and what are the advantages and disadvantages of each? What type of computers would you typically find each one in?

4 (a) What are TCP/IP, IPX/SPX and NetBIOS and where are they used?
(b) There are three computers in an office which are to be networked. Outline the main components and steps required to establish the network.

5 (a) What is the difference between an interrupt and an exception? What causes each of them to occur?
(b) What is the difference between multi-user and single user systems? Write notes on where each one might be used, giving examples.