



*National Council for Vocational Awards*

**Information Technology CITXX**  
**(Clonmel Central Technical Institute)**

**Computer Architecture and Systems**  
**C20012**  
**May 1999**

*Answer ten questions in Section A (25%)*  
*Answer three questions from Section B (75%)*

*Time allowed: 2 hours*

<b>Section A</b>	<i>All questions are four marks. 4 marks – correct. 3 marks – substantially correct. 2 marks – correct but less than perfect. 1 mark – not completely off the wall. Answers different to the suggested answers which are nonetheless correct will be marked as being correct.</i>
	<b>Suggested/Guideline Answers</b>
1	Single bit vs multiple bits
2	1,000,000 or 1,048,576
3	Any one of: access time, latency, type etc
4	Any two of: Apple, Compaq, Dell, Gateway 2000, Celtic etc
5	CD-RW, Floppy, ZIP, tape etc
6	Any four of: keyboard, mouse, scanner, printer, lightpen, speakers, joystick etc
7	Resource management, user-interface, file management etc
8	Universal serial Bus
9	94
10	Modem
11	UNIX (Linux), Windows NT, Novel Netware
12	Any two of: speed, cost, variety of transmittable data types

<b>Section B</b>	<p><i>All questions are 40 marks.</i></p> <p><i>Answers different to the suggested answers but which are nonetheless correct will be marked as being correct.</i></p>
	<b>Suggested/Guideline Answers</b>
1	<p>(a) Inkjet – wet ink dropped on paper. Laser printer – dry toner heat-sealed on page. (4 marks each printer type, 6 marks each method)</p> <p>(b) Reflected light, receptor/sensor, bitmaps, OCR, editable image/file <i>etc</i> (20 marks)</p>
2	Any two of: RAM amount, RAM access times, video RAM amount, video bus type, hard disk type & access times, bus types used, L1 & L2 cache memory quantities <i>etc</i> with appropriate notes explaining the relevance of each. (10 marks per item, 10 marks per explanation)
3	<p>(a) Magnetising and demagnetising coated disk surface. Moving arms, motors <i>etc</i>. Diagram. (Diagram - 10 marks, explanation – 10 marks)</p> <p>(b) SCSI/IDE; Speed/Cost; 7 (+) drives/4 drives; Servers/Workstations; (10 marks each)</p>
4	List: hardware, software, installation, configuration. List set of: Modem, POTS, cables, OS, drivers, IP, ISP. Briefly outline steps to follow. (40 marks)
5	NOS – Linux, NT, Novell. Multiple computers, server client arrangement, resource sharing. Multi-user supports more than one simultaneous user; on-line banking, reservation systems; mainframe systems; VMS. Single user supports one user only; common OS such as Windows & MAC OS; home use; PCs. (10 marks each, + 10 for quality of answer)