



(National Council for Vocational Awards)



MARKING SCHEME

Computer Architecture & Systems C20012

Theory Examination 2006

Duration: Two Hours

INSTRUCTIONS TO CANDIDATES:

*Answer any **ten** questions from Section A*

*Answer any **two** questions from Section B*

All questions in each section carry equal marks

Return this exam paper when finished along with your answer book

This written exam counts as 40% of the total module

NAME (PRINT): _____ **MARKING SCHEME**

PPS NUMBER: _____

DATE: _____

Section A (20%)

Answer any ten questions. All questions carry equal marks (2 marks each). If you answer more than ten questions the best ten marks will be chosen.

1. What device is used to capture images from paper to computer? **Scanners**
(2)
2. Convert the hexadecimal value **AB** into decimal. **171** (2)
3. What is the function of the LINUX command **rm**? What is the command to change directory? **remove File/Directory; cd** (1 each)
4. Convert the binary value **1101 0010** into decimal **210** (2)
5. List two benefits of e-mail over traditional mail. **Speed, Cost, Attachments, Editable, Multimedia...** (1 each, any 2)
6. How many megabytes are in a gigabyte? **1024 (2) or 1000 (1)**
7. Name an advantage that USB pen-disks, Zip disks, floppy disks *etc.* have over CDROM disks. What advantage does the CDROM have? **Writeable (1); Capacity/Compatibility/Unalterable (1)**
8. What do the letters ASCII stand for? Why and where is ASCII used? **American Standard Code for Information Interchange; The Internet as a common computer communications** (1 each)
9. Convert the decimal value **231** into binary. **11100111** (2)
10. If all the USB ports in a computer are in use and further USB devices are to be added what steps can be used to remedy this issue? **Add a USB hub(...max 128 devices)** (2)
11. What danger do email attachments represent? What steps can be taken to minimize this danger? **May contain viruses etc; (1) Use AV software/do not open (1)**
12. What is the purpose of the Data Protection Act? Outline two provisions of the Act. **(1 each, any two provisions)**

Section B (20%)

*Answer any **two** questions. All questions carry equal marks (10 marks each). If you answer more than two questions the best two marks will be chosen. Longer answers are required in this section.*

1. Outline the steps to connect a modern home computer to the Internet:

- (a) Outline at least two connection methods available in your area.
- (b) Discuss the advantages/disadvantages of each.
- (c) List the hardware components required for each connection type.
- (d) Discuss the software requirements of the computer: what software protocol needs to be added? Which user applications are most commonly used?
- (e) Name at least two ISPs operating in your area and the services they provide.

10 marks (5 x 2 marks each)

2. (a) List the main components you would expect to find in a modern PC, including peripherals. Write a note on each explaining its function, and if necessary, an example of its use. Not less than 6 items should be listed.

6 marks

(b) Is the processor speed of the CPU alone a good indicator of system performance? If not, what else could be an indicator of performance and why?

4 marks

3. Redhat Linux is an operating system developed under the Open Source model. Microsoft Windows is a range of proprietary operating systems developed by a private company. From your experiences compare *both* operating systems under the following headings:

- (a) Cost .
- (b) Reliability as a Server and as a Desktop Workstation.
- (c) Range of available applications & services.
- (d) Ease of use/user friendliness.
- (e) Security.

10 marks (5 x 2 marks each)

Max mark**Mark range:**

8 marks:

0-3 not good response;

4-5 good but obviously lacking;

6-7 good but imperfect;

8 completely accurate & appropriate answering.

6 marks:

0-1; 2-3; 4-5; 6

5 marks:

0-1; 2-3; 4; 5

4 marks:

0-1; 2; 3; 4;

2 marks;

0; 0.5; 1-1.5; 2

10 marks:

0-4; 5-6; 7-9; 10