



(National Council for Vocational Awards)



Computer Architecture & Systems C20012 – Level 5

Theory Examination 2007

Duration: Two Hours

Please take the full duration to read and answer all questions.

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): _____

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?
2. Convert the hexadecimal value **20** into decimal.
3. What is the function of the Linux command **cd**? What is the command to remove a file?
4. Convert the binary value **1000 1001** into decimal.
5. List two benefits of e-mail over traditional mail.
6. How many bits are in a kilobyte?
7. Name an advantage that USB pen-disks have over DVD-R discs. Name an advantage of the DVD-R?
8. What do the letters ASCII stand for? Why and where is ASCII used?
9. What does it mean if a file has an extension of **.pl**?
10. What 'well known port' number is used for telnet?
11. What is the name of the Linux superuser? What is the benefit of being the superuser as distinct from any other user?
12. What is the purpose of the Data Protection Act? Outline two provisions of the Act.

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 office to the Internet:

- (a) Outline at least two connection methods available to businesses.
- (b) Discuss the advantages/disadvantages of each.
- (c) List the hardware details for each connection type.
- (d) Discuss the software requirements of an internet-attached computer: what software protocols need to be added? Which user applications are most commonly required and what issues arise from their use?
- (e) Name at least two general security issues and how they can be overcome.

10 marks (5 x 2 marks each)

2. Draw a simple schematic of a modern computer; indicate the main components you would expect to find in the PC, including any key peripherals. Write a note on each item explaining its function and the purpose of its use. No fewer than 6 items should be listed.

8 marks

(b) Is the processor speed of the CPU alone a good indicator of system performance? If not, what might have a greater or equal effect on performance and why? Give your reasons.

2 marks

3. Microsoft Windows is a range of proprietary operating systems developed by a private company. It has been described by many as one of the worst operating systems ever developed. But what are the alternatives? Name and discuss one other operating system under the following headings:

- (a) Cost.
- (b) Reliability as a Server or as a Desktop Workstation.
- (c) Range of available applications & services.
- (d) Security.

10 marks (4 x 2.5 marks each)