NCC EDUCATION

INTERNATIONAL DIPLOMA
IN
COMPUTER STUDIES

FUNDAMENTALS OF HARDWARE AND OPERATING SYSTEMS

JUNE 2008 – Local Exam

SECTION A
Answer all questions from this section.

SECTION B
Answer any 2 questions from this section.

Time: 1½ hours

Clearly cross out surplus answers.

Failure to do this in Section B will result in only the first two answers being marked.

**Any reference material brought into the examination room must be handed
to the invigilator before the start of the examination.**

Marks

QUESTION 1

a)   Give TWO examples of a hot swapping device.   **2**

b)   Why is FireWire superior to a USB bus?   **2**

QUESTION 2   **4**
Explain the difference between the **format** and **fdisk** commands.

QUESTION 3   **4**
Briefly describe FOUR major components in a PC system.

QUESTION 4   **4**
Explain the role of a kernel.

QUESTION 5   **4**
Explain the role of primary memory in a PC.

QUESTION 6   **4**
What does the command   `m??ro.*`   do when typed in the search text box?

QUESTION 7   **4**
Briefly describe the hard disk drive's fragmentation process.

QUESTION 8   **4**
Explain how DRAM stores data.

QUESTION 9   **4**
How has the emergency repair disk tool been replaced in the Windows XP operating system?

QUESTION 10   **4**
Explain what happens when Windows restarts a system in Safe Mode.
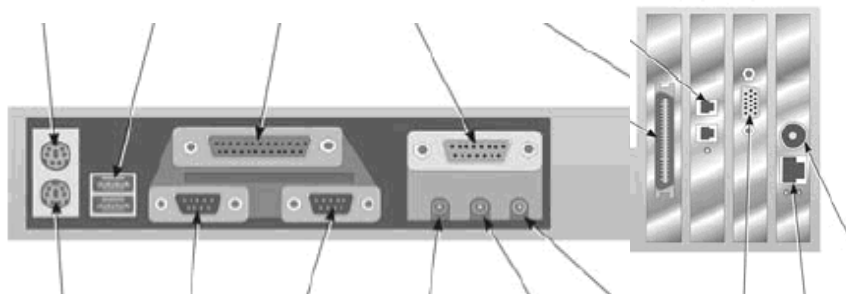
Total 40 Marks

QUESTION 1 **Marks**

a) Name the various ATX ports and back panel connections below. **15**

b) i) Explain how a parallel port differs from a serial port.
ii) Give one example of each type of port.

c) Explain THREE reasons why the USB architecture has become very popular. **6**

d) Give a detailed description of *character framing*. **5**

Total 30 Marks

QUESTION 2

a) What is an IP address? **5**

b) Describe the THREE classes of standard IP addresses that are supported for LANs. **7**

b) Explain the purpose of a router. **2**

c) Describe how IP addresses are allocated on a private network. **4**

d) Explain the purpose of the File Transfer Protocol. **2**

e) i) What protocol is used to protect credit card information during online transactions? **1**
ii) How does this protocol work? **5**

f) An email with an attachment was sent out. However, the receiving party is only able to receive the email but without the attachment. Suggest what may have gone wrong. **4**

Total 30 Marks

QUESTION 3

a) Describe FOUR common operating system operational problems. **12**

b) Name THREE types of virus and explain how each infects a computer system. **12**

c) Briefly describe SIX common virus symptoms. **6**

Total 30 Marks

END OF PAPER