

**NCC EDUCATION**

**INTERNATIONAL DIPLOMA  
IN  
COMPUTER STUDIES**

**FUNDAMENTALS OF HARDWARE  
AND  
OPERATING SYSTEMS**

**SEPTEMBER 2008 – Local Exam**

**SECTION A**

**Answer all questions from this section.**

**SECTION B**

**Answer any 2 questions from this section.**

**Time: 2 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.**

<b>SECTION A</b>
<b>ANSWER ALL QUESTIONS IN THIS SECTION</b>

**Marks**

**QUESTION 1**

**4**

Explain the difference between *configuration problems* and *hardware failure*.

**QUESTION 2**

**4**

Explain the term *electrostatic discharge (ESD)* and state FOUR (4) possible causes.

**QUESTION 3**

**4**

Describe the purpose of the *Small Computer Systems Interface (SCSI)* in a computer.

**QUESTION 4**

**4**

Explain the operations of the Windows *Infrared Monitor* utility in a computer.

**QUESTION 5**

**4**

Briefly describe FOUR (4) major components of a basic computer system.

**QUESTION 6**

**4**

Describe the terms *Intranet* and *Extranet*.

**QUESTION 7**

**4**

List FOUR (4) major problems that may be encountered while performing an operating systems upgrade.

**QUESTION 8**

**4**

Explain the purpose of a *bridge* and *router* and list any TWO (2) functions of a *router*.

**QUESTION 9**

**4**

Explain the purpose of a *Secure Socket Layer (SSL)* protocol.

**QUESTION 10**

**4**

Describe the purpose of *Wireless Local Area Networks (WLANs)* and identify how a *WLAN* connects to a *wired LAN*.

**Total 40 Marks**

**QUESTIONS CONTINUE ON NEXT PAGE**

<b>SECTION B</b>
<b>ANSWER ANY TWO QUESTIONS</b>

**QUESTION 1****Marks**

- A) Compare the operations of *Programmed I/O* with *Interrupt driven I/O*. **10**
- B) Briefly describe the level-0, level-1 and level-5 *Redundant Array of Inexpensive Disks* (RAID). **15**
- C) Draw a diagram of a *Fibre-optic cable* and explain its structure and operation. **5**

**Total 30 Marks****QUESTION 2**

- A) Most backup utilities allow backups to be performed in a number of ways. Describe the FOUR (4) different ways of performing backup operation to create copies of important information. **12**
- B) Explain the concept of creating multiple logical drives in a single hard disk drive. **8**
- C) Explain the term IP address and briefly explain the THREE (3) classes of standard IP addresses. **10**

**Total 30 Marks****QUESTION 3**

- A) Explain the purpose of "*Power On Self Test*" (*POST*) in a computer system, and how it is conducted. **12**
- B) Describe the purpose of *dual-booting* process in a computer system. **2**
- C) Describe the operations and structure of the *print spooler* architecture in Windows NT and XP operating systems. **8**
- D) Explain the difference between *CHKDSK* and *ScanDisk* commands. **8**

**Total 30 Marks****END OF PAPER**