

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.**

SECTION A
ANSWER ALL QUESTIONS IN THIS SECTION

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

SECTION B
ANSWER ANY TWO QUESTIONS

QUESTION 1	Marks
A) Compare the operations of <i>Programmed I/O</i> with <i>Interrupt driven I/O</i> .	10
B) Briefly describe the level-0, level-1 and level-5 <i>Redundant Array of Inexpensive Disks</i> (RAID).	15
C) Draw a diagram of a <i>Fibre-optic cable</i> 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 “ <i>Power On Self Test</i> ” (<i>POST</i>) in a computer system, and how it is conducted.	12
B) Describe the purpose of <i>dual-booting</i> process in a computer system.	2
C) Describe the operations and structure of the <i>print spooler</i> architecture in Windows NT and XP operating systems.	8
D) Explain the difference between <i>CHKDSK</i> and <i>ScanDisk</i> commands.	8
Total 30 Marks	

END OF PAPER