



NCC EDUCATION

INTERNATIONAL DIPLOMA
IN
COMPUTER STUDIES

FUNDAMENTALS OF HARDWARE
AND
OPERATING SYSTEMS

JUNE 2009 – LOCAL EXAMINATION

SECTION A

Answer all questions in this section.

SECTION B

Answer any two questions in 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
Briefly describe FOUR (4) major components of a basic computer system.	
QUESTION 2	4
Describe the purpose of the <i>CheckDisk</i> and <i>ScanDisk</i> utilities in a computer.	
QUESTION 3	4
Briefly describe the importance of the <i>USB</i> interface standard in a computer.	
QUESTION 4	4
Differentiate between the terms <i>VRAM</i> and <i>WRAM</i> .	
QUESTION 5	4
Describe <i>Carrier Sense Multiple Access/Collision Detection (CSMA/CD)</i> .	
QUESTION 6	4
Describe the structure and operations of a star LAN topology.	
QUESTION 7	4
List FOUR (4) common services that an <i>Internet Service Provider (ISP)</i> may provide to Internet customers.	
QUESTION 8	4
Explain how a <i>Network Interface Card (NIC)</i> is used to connect a computer to a Local Area Network.	
QUESTION 9	4
List FOUR (4) different categories of backup operation used in computers.	
QUESTION 10	4
Describe the operation of an <i>Uninterruptible Power Supply (UPS)</i> in computer systems.	

Total 40 Marks

QUESTIONS CONTINUE ON NEXT PAGE

SECTION B
ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION 1	Marks
a) Explain the difference between <i>EDRAM</i> and <i>SDRAM</i> .	6
b) Briefly explain the operational stages of a typical laser printer.	12
c) How does a dot-matrix printer place characters on a page?	3
d) Briefly describe the operation of a <i>Fibre Distributed Data Interface (FDDI)</i> in a network.	9
	Total 30 Marks

QUESTION 2	Marks
a) Describe in detail the following transmission media:	
i) Copper cabling	7
ii) Fibre-optic cabling	7
iii) Infrared light	3
iv) Wireless radio frequency (RF) signals	3
b) Explain the purpose of a <i>Power On Self Test (POST)</i> in a computer system.	10
	Total 30 Marks

QUESTION 3	Marks
a) What are the major advantages of <i>client/server</i> networks over <i>peer-to-peer</i> networks?	2
b) Explain the purpose of a <i>NetBEUI</i> protocol in a normal network environment.	8
c) Briefly explain the function of a <i>cable modem</i> in a network.	10
d) Explain the term <i>IP address</i> and briefly explain the THREE (3) classes of standard IP address.	10
	Total 30 Marks

END OF PAPER