



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