Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2013

INFORMATION TECHNOLOGY P2 MEMORANDUM

MARKS: **150**

This memorandum consists of 8 pages.

SECTION A: MULTIPLE-CHOICE QUESTIONS AND MATCHING THE COLUMNS

QUESTION 1

1.1	D			(1)
1.2	B			(1)
1.3	B			(1)
1.4	D			(1)
1.5	C			(1)
1.6	D			(1)
1.7	A			(1)
1.8	D			(1)
1.9	B			(1)
1.10	B			(1)
1.11	1.11.1	E	Protocol responsible for delivery of mail	(1)
	1.11.2	H	The study of devices that imitate human intelligence	(1)
	1.11.3	K	Use and provide network resources	(1)
	1.11.4	I	Virtual community that communicates and interacts via the internet	(1)
	1.11.5	D	Technique used to reduce the number of input errors	(1)
	1.11.6	F	Text file that is saved on your computer by a website	(1)
	1.11.7	A	Skype	(1)
	1.11.8	B	Central Processing Unit	(1)
	1.11.9	C	Transfers files over the Internet	(1)
	1.11.10	L	Mobile operating system	(1)

TOTAL SECTION A: 20

SECTION B: SYSTEM TECHNOLOGIES

QUESTION 2

2.1 PCs consist of several components that can be swapped and replaced. √√ (2)

2.2 An input device gives the computer instructions. √ Examples include keyboard, mouse, scanner, etc. (2 only) √√ (3)

2.3

DRAM	SRAM
Must be refreshed	Not
Slower	Faster
Small Structure	Larger structure
Less expensive	More expensive

(Only 3) √√√ (3)

2.4 CPU, motherboard, graphics card and add-on cards (3 only) √√√ (3)

2.5 High speed memory √ built in to the CPU √ used to store frequently used data √ and instructions. √ (4)

2.6 Web and disk cache √√ (2)

2.7 The computer can automatically configure adapter cards √ and other peripherals. This means that you can plug in the device, √ turn on the computer and almost immediately begin using the device. √ (3)

2.8 The system bus is the pathway between the CPU and RAM. √ The system bus continually transfers data between the CPU and memory and thus has to be fast. √ It is a critical performance area √ and is normally mentioned in specifications. √ (4)

2.9 A driver is a program √ that enables the operating system to communicate with a specific device. √ (2)

2.10 Download the driver from the Internet or the driver will be supplied on a CD when you buy the device. √ You have to install it manually. √ (2)

TOTAL SECTION B: 28

SECTION C: COMMUNICATION TECHNOLOGIES AND NETWORK TECHNOLOGIES

QUESTION 3

3.1 Sharing of hardware √ Sharing of data and software √
Centralisation of data √ Transfer of data √
Improved communication √ Entertainment (5 only) (5)

3.2 Network card √ Cable √
Switch √ Network operating system on each machine √ (4)

3.3 Attenuation √ Electromagnetic interference √
Eavesdropping √ Crosstalk √ (4)

3.4 Wireless √ Fibre optic cable √ (2)

3.5 Fibre √
Fibre runs at speeds in excess of 1Gb/s, much higher than wireless √ (2)

3.6 LAN √ (1)

3.7 Peer-to-peer √ (1)

3.8

Peer-to-peer	Client-server
All computers are peers	Each computer is either a client or server
No server is necessary	A server is required
All computers are of high specifications	Only the server has a high spec, the rest can be spec'd lower
Software is cheaper, e.g. Win 7	Specialised server software is required
Small number of computers, e.g. 10 or less	Suitable for large number of computers
Low skilled person can install computers	Requires a highly skilled person to manage the network
Slow performance	High performance
Security limited	Security better
Machines can run stand-alone if network fails	If the network or server fail, the network will not work
No dedicated administrator needed	Needs dedicated administrator
Network O/S loaded on every computer	Network O/S loaded on server and client software on each computer
Examples: WinXP, Win7	Examples: Novell Netware, Win Server 2008

(6 only) √√√√√√ (6)

TOTAL SECTION C: 25

SECTION D: DATA AND INFORMATION MANAGEMENT

QUESTION 4

4.1	4.1.1	*Data* is raw facts √ while *information* is the results of processing the data. √	(2)
	4.1.2	Database management software √	(1)
	4.1.3	MS SQL Server √ Oracle √ MS Access √ PostgreSQL √ MySQL (Only 4)	(4)
4.2	4.2.1	A *computer virus* is software √ which has the ability to replicate √ and is designed to cause a PC to malfunction √	(3)
	4.2.2	*Spam* is unwanted junk mail √	(1)
	4.2.3	*Spyware* is software √ that is loaded on your PC without your knowledge √ which is used to obtain personal information about the person. √	(3)
	4.2.4	*Phishing* is the sending of an e-mail √ claiming to be from a legitimate source. √ In the e-mail they request you give out personal information √ such as bank pins.	(3)
		TOTAL SECTION D:	**17**

SECTION E: SOLUTION DEVELOPMENT

QUESTION 5

5.1 5.1.1

shopName Text 25 √ dateOpened Date/Time n/a √
shopID AutoNumber n/a √ rentalAmount Currency n/a √
telephone Text 15 √ sizeInSqMetres Number n/a √
(Any suitable 3) (3)

5.1.2 It is one of the fields √ which uniquely identifies a record √ (2)

5.1.3 shopID √ It is a unique value √ (2)

5.2 5.2.1

```
Open (table)
Set record to (first)  √
i = 0  √
While not at end of table    √
  Read record    √
  Increment(i)     √
  Put name into array[i]     √
Endwhile
Winner = array[random(i)]     √
Display winner       √
```

(8)

5.2.2 SELECT * √ FROM members √ ORDER BY surname √ (3)

5.2.3 SELECT surname, name, id_no, member_no, paid_up √√ FROM members √ WHERE paid_up = true √ ORDER BY member_no √ (5)

5.3 Object oriented programming (1)

5.4 5.4.1 Line 1 and Line 6 √ (Line 1 may be implied) – Division by zero √ (2)

5.4.2 Any suggestion which prevents CNT being zero. √ (1)

TOTAL SECTION E: 27

SECTION F: INTEGRATED SCENARIO

QUESTION 6

6.1 6.1.1 Multitasking is when the processor switches between running applications very quickly to give the impression that more than one program is running at the same time. √√√ (3)

6.1.2 Multithreading is when one program √ is broken up into individual threads √ which run at the same time. √ An example is MS Word which runs a spell check and a grammar check as separate threads. √ (4)

6.2 6.2.1 Interrupt Request √ (1)

6.2.2 It is a means by which a piece of hardware √ signals the processor for attention. √ Each device uses a different interrupt request number. √ (3)

6.3 When the computer is switched on, instructions are transferred from the BIOS program in ROM to the CPU √
The BIOS program gets the CPU to load the hardware configuration from CMOS memory √
The POST is performed to check devices are working properly √
The BIOS gets the CPU to load the O/S from the storage device specified in the system configuration √
The O/S is loaded from secondary memory into RAM and takes control of the computer √ (5)

6.4 6.4.1 Virtual memory is not real memory, it is based on the hard drive √
As programs are loaded, RAM starts filling up until it is at capacity √
When more RAM is needed, programs and data that are not being used are swopped to this virtual memory, freeing up RAM √
These pages swopped to the hard drive must be loaded back into RAM to be used again √ (4)

6.4.2 Thrashing is when the swopping from RAM to hard drive becomes intense √ with the hard drive light on constantly. √
It can be corrected by closing one or two programs or by adding more RAM. √√ (4)

6.5 6.5.1 Opening e-mail attachments from unknown sources √
Sharing files over the network which have not been checked by anti-virus software √
Downloading files from disreputable websites. √ (3)

	6.5.2	An update is a file which is downloaded from the web √ which updates the anti-virus software against new viruses. √	(2)
6.6	6.6.1	Piracy √	(1)
	6.6.2	Proprietary software means it is never owned by the user.√ The user is licensed to use the software according to the license agreement. √	(2)
	6.6.3	Linux √	(1)

TOTAL SECTION F: 33
GRAND TOTAL: 150