Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

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INFORMATION TECHNOLOGY P2 MEMORANDUM

MARKS: 180

This memorandum consists of 9 pages.

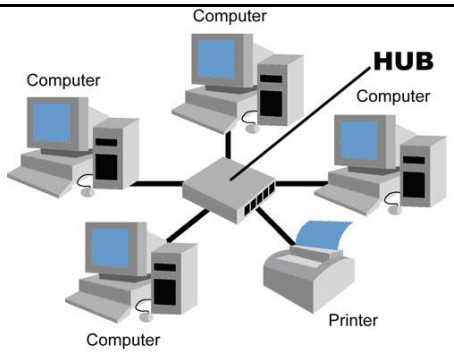
SECTION A: MULTIPLE-CHOICE QUESTIONS			
QUESTION 1			
1.1	C	two chips.	(1)
1.2	C	video and high speed storage devices.	(1)
1.3	A	Basic Input Output System.	(1)
1.4	C	nothing in the CPU can be upgraded.	(1)
1.5	B	Games DLL	(1)
1.6	B	IPX	(1)
1.7	D	Delivery periods can be lengthy.	(1)
1.8	A	SELECT * FROM learners WHILE firstname = “FREDDY”	(1)
1.9	C	0 – 255.	(1)
1.10	A	thin and lightweight hence can be used in cramped areas.	(1)
	MATCH THE COLUMNS		
1.11	F	RAM	(1)
1.12	K	Blogs	(1)
1.13	H	IEEE 802.3	(1)
1.14	B	An operating system associated with mobile devices	(1)
1.15	J	The minimum size storage unit in a file system	(1)
1.16	C	A protocol used over an IP network for voice communications	(1)
1.17	G	Memory that one cannot change	(1)
1.18	E	Disk based memory	(1)
1.19	D	Permanent connection to the internet	(1)
1.20	A	A protocol for transferring data to small hand held devices like PDA’s and cellphones	(1)
		TOTAL SECTION A:	**20**

SECTION B: HARDWARE AND SOFTWARE				
QUESTION 2				
2.1	2.1.1	Input – allow us to get data into the computer. √ Output – allow us to get feedback from the computer. √ Input device examples: mouse, keyboard, scanner etc. (Any 2) √√ Output device examples: monitor, printer, speakers etc. (Any 2) √√		(6)
	2.1.2	North bridge √ South bridge √		(2)
	2.1.3	North bridge – CPU, RAM, AGP, PCI-x √√√√ South bridge – Standard I/O, PCI, USB, Firewire √√√√		(8)
	2.1.4	USB or Firewire √		(1)
	2.1.5	It is built in to the CPU √√		(2)
	2.1.6	High speed memory √ built in to the CPU √ used to store frequently used data √ and instructions. √		(4)
	2.1.7	Fetch √ an instruction is fetched from memory. √ Decode √ the instruction is decoded. √ Transfer √ data from RAM if necessary. √ Execute √ the instruction. √		(8)
	2.1.8	PCI-x √		(1)
	2.1.9	**DRAM**	**SRAM**	
		Used for normal system memory.	Used where speed is a premium, e.g. cache. √	
		Needs to be refreshed constantly as it is made of capacitors.	Does not need constant updating as it is made of transistors. √	
		Runs at the speed of the motherboard (slower).	Runs at the speed of the CPU (faster) √	
		Cheaper so in bigger quantities.	Expensive in small quantities √	
		Can be upgraded.	Cannot be upgraded as it is inside the CPU. √	(5)
	2.1.10	One is able to create a computer to match the specifications you require is a result of modular design √. PC's are built so that their parts are easy to replace repair and upgrade √√√		(4)

2.2	2.2.1	A driver is software √ which is the interface between the operating system √ and the hardware. √	(3)
	2.2.2	The operating system comes with standard drivers for these devices.	(1)
2.3	2.3.1	NTFS, HFS, CDFS, FAT, FAT32 √√√√ (Any 4)	(4)
	2.3.2	A sector is the smallest unit of storage on a disk. √ In order to make the disk more efficient, the operating system stores files in clusters √ which are a pre-determined number of sectors. √ The gap between the actual file size and the amount of disk space it takes up is known as slack. √	(4)
	2.3.3	The drive has been partitioned √ into two logical drives √ although there is only one physical drive in the system.	(2)
	2.3.4	Yes √ one partitions √ the drive as two logical drives, each containing a different operating system, √ and uses a boot manager. √	(4)
		TOTAL SECTION B:	**59**

SECTION C: APPLICATIONS AND IMPLICATIONS			
QUESTION 3			
3.1	3.1.1	Information overload comes about because we are constantly being bombarded by information √ wherever we are, coming from PC's to mobile devices. √	(2)
	3.1.2	GIGO or Garbage in Garbage out √	(1)
3.2	The digital divide is the gap √ between those who have regular access to technology and those who do not. √		(2)
3.3	• Record keeping • Monitoring of vital signs • Telemedicine • Virtual reality to "practise" procedures • Scans and 3D imaging • Internet research √√√ (Any 3 of the above)		(3)
3.4	• Purchases can be done anywhere there is internet • Can shop anytime • Items can be cheaper due to lower overheads • Can do comparative shopping • Reviews based on your shopping profile • Lower stock • Reduced overheads • Markets include whole country and world • Electronic catalogues cost less • No time restrictions √√√√√ (Any 5 only)		(5)
3.5	IRC – allows a user to communicate with many people in chat rooms Internet forums – users post comments related to specific topics Email lists – discussion groups using email distribution lists Blogs – on-line journals Wikis – users collaborate and publish bodies of knowledge Podcasts – publishing audio/video files played on iPods IM – communications between people over a network when they are online √√√√√√ (3 only and description)		(6)
		TOTAL SECTION C:	**19**

SECTION D: PROGRAMMING AND SOFTWARE DEVELOPMENT			
QUESTION 4			
4.1	4.1.1	The error is a divide by zero error √ in line number 6. √	(2)
	4.1.2	Increment the counter before calculating the result, i.e. swap lines 6 and 8 around. √	(1)
4.2	4.2.1	While loop √ You do not know how many records the file will contain. √	(2)
	4.2.2	Arrays. √ One needs to read all the records into memory √ in order to sort them and the only data structure able to hold all the data would be arrays. √	(3)
	4.2.3	arrName: array[1..50] of string √√	(2)
4.3	4.3.1	Structured Query Language √	(1)
	4.3.2	Any four appropriate names like surname, name, ID_number, DOB etc. √√√√	(4)
	4.3.3	SELECT * √ FROM learners_table √	(2)
		TOTAL SECTION D:	**17**

SECTION E: INTEGRATED SCENARIO			
QUESTION 5			
5.1	5.1.1	Multitasking. √ When the processor divides its time between multiple applications √ giving the impression that all the programs have exclusive use of the processor. √	(3)
	5.1.2	Multithreading is when a single program √ divides itself into threads which execute at the same time. √	(2)
5.2	5.2.1	Transmission Control Protocol / Internet Protocol √	(1)
	5.2.2	Set of rules √ governing communications on a network. √	(2)
	5.2.3	TCP √ IP √ FTP √ SMTP √ Telnet √	(5)
5.3	5.3.1	The physical layout of the network is in a star shape. √	(1)
	5.3.2	 √√	(2)
	5.3.3	Bus √ ring √	(2)
5.4	5.4.1	Fibre optic cable. √ UTP can only extend 100 m while fibre can run for a few kilometres. √	(2)
	5.4.2	Wireless connection between the buildings. √	(1)
5.5	5.5.1	It is a wireless network √ that has been set up for internet connections for mobile devices. √	(2)

	5.5.2	Advantages – 3 from √√√ • Portability and mobility • Cost savings • Flexibility • Planning Disadvantages – 3 from √√√ • Security • Range • Reliability • Speed (3 + 3)	(6)
5.6	5.6.1	One is the uplink speed and the other the downlink. √	(1)
	5.6.2	To prevent hackers and unwanted applications √ from accessing your network from the outside √ and to control what goes out of your network. √	(3)
	5.6.3	By blocking incoming √ and outgoing √ network ports.	(2)
5.7	Router √		(1)
5.8	5.8.1	• On-screen keypad • Type in a number of letters of a second password • Once-off passwords • SMS notifications • Systems log you off automatically √√√ (Any 3 only)	(3)
	5.8.2	• Do not use public computers for banking. • Use good passwords. • Never give out personal details. • Do not respond to e-mails requesting your details. • Check bank statements. • Ensure the bank site is secure (HTTPS). • Always access the bank by typing the full URL. • Use anti-virus and firewall software. • Do not leave the PC unattended. √√√√√ (Any 5)	(5)
5.9	5.9.1	A virus is self-replicating √ executable code √ which copies itself onto machines with possible malicious intent. √	(3)
	5.9.2	• E-mail • Infected flash disk • Malicious web site • Malicious screen savers (Any other reasonable means.) √√√√ (Any 4)	(4)

5.10	The device can be inserted or removed without powering down the machine. √√		(2)
5.11	Virtual memory is disk based memory. √ Data and programs that are not being used are swapped out to disk freeing up RAM. √ Areas of RAM in virtual memory that are now needing RAM can be swapped into this free RAM. √		(3)
5.12	5.12.1	One physical CPU containing 4 processor cores on the chip √√	(2)
	5.12.2	• Client/server √. • Peer-to-peer is only good for up to 10 machines • Better security • Faster performance • Centralised management √√√ (Any 3)	(4)
	5.12.3	• Sharing of files. • Sharing of peripherals. • Centralised management of data. • Shared internet access. • Centralised backups. • Communications is easy. √√√ (Any 3 only)	(3)
		TOTAL SECTION E:	**65**
		GRAND TOTAL:	**180**