MPUMALANGA DEPARTMENT OF EDUCATION

GRADE 12

INFORMATION TECHNOLOGY

Paper 2

Trial Examination – Memorandum

September 2009

Note to all markers:

1. Please note that this memo by no means contains all the solutions to the questions.
2. Only one/two textbooks have been used to produce the possible solutions.
3. At all times candidates must be given recognition for alternate solutions.
4. If necessary, please research a candidate's solution, for recognition for marks.
5. Please add all alternative solutions to the Memo for capturing.
6. Be lenient when marking.

MARKS: 180 **TIME: 3 hours**

Question 1

1.1	1.1.1	A	√	(1)	
	1.1.2	C	√	(1)	
	1.1.3	D	√	(1)	
	1.1.4	A	√	(1)	
	1.1.5	C	√	(1)	(5)
1.2	1.2.1	TRUE √√		(2)	
	1.2.2	FALSE √- Multithreading √		(2)	
	1.2.3	TRUE √√		(2)	
	1.2.4	TRUE √√		(2)	
	1.2.5	FALSE √- Pipelining √		(2)	(10)
			Total		[15]

Question 2

2.1 2.1.1 Adding more RAM√ increases the speed√
Adding a hard drive√ gives more space to store files. √
Replacing the optical drive√ with something better. √
Changing the video controller√ makes a big difference to the levels of detail and speed. √
Increase clock speed/ clock multiplication. (8)

2.1.2 2.1.2.1 Memory management√
Managing files on disk√
Input and output control√
User interface (4)

2.1.2.2 256MB√ (1)

2.1.3 2.1.3.1 40Gig, √ Sufficient space for the new Operating
System and all other programs and data required. √ (2)

2.1.3.2 Free up hard disk space.√
Do a disk defrag. √ (2)

2.1.4 2.1.4.1 Make back-up copies of expensive music, movie and software disks. √
Carry large data files to and from home. √ (2)
2.1.4.2 No, √ The DVD-writer can be accessed and used by all computers on the network. √ (2)

2.1.5 Flash disk/ memory stick√
Can store large files. √
Reliable and easy to access.√ (3)

2.1.6 Speed printing and quality are not necessary on receipts. Dot matrix printers use a ribbon which is cheap to replace/ re-ink. √ Laser printers use toner which finishes quickly and is very expensive to replace. √ (2)

2.1.7 Can connect many devices at the same time√
Can copy directly from one memory stick to another
(Any 2 valid answers) √ (2)

2.1.8 Computerised systems result in higher and more consistent quality and increased productivity.
Computerised systems cut down on wastage.
New job opportunities created.
New products are being manufactured. (3)

(Any 3 valid answers)

2.2 2.2.1.1 The new operating system does not have the drivers for the required hardware. √ She needs to install the drivers from the driver disk that accompanied the disk drive. √ (2)

2.2.1.2 Plug 'n play/ plug and play √ (1)

2.2.1.3 Hot swappable √ (1)

2.3 2. 3.1 The computer uses hard disk space√ as part of primary memory. √ (2)

2.3.2 Increase the amount of hard disk space allocated for virtual memory. √
Add more RAM (1)

(any one answer)

2.4 "dual core" has two CPUs√ on the processor and therefore has more processing power as compared to Hyperthreading where (2) one CPU registers√ as two CPUs and accomplishes processing in threads.

Total [40]

Question 3

3.1 3.1.1 Client-server networks – high security can be maintained. √
Data is centralised – only need to be updated on the server. √ (2)
(any two advantages)

3.1.2 More powerful processor. √
More RAM. √
(any two features) (2)

3.1.3 Star topology√
One dysfunctional computer does not influence the other computers. √
Troubleshooting is easy. *(any one advantage)* (2)

3.1.4 -setting up/removing hardware and software on the network. √
-sorting out network problems/ troubleshooting√
-backing up important files√
-planning for future development of the network. (3)
(Any 3 valid answers)

3.2 3.2.1 CAP is the restriction on the amount of web pages and data that can be downloaded when surfing the net. √
1GB is roughly 30 000 web pages. √
Avoid downloading movie files etc. that are large files. (2)
(Any 2 valid answer)

3.2.2 a) Podcasting allows the user to publish audio or video files to the Internet. √√ (2)

b) Movie clips with sound can be made of the latest vehicles/ promotions and published on the net for prospective clients to view. √√ (2)
(Any suitable answer)

3.3 3..3.1 Blogs are personal websites. √
Some are personal diaries and others resemble newsletters or columns. √ (2)

3.3.2 Mobile√ (1)

3.3.3 These sites can be viewed clearly on mobile√
devices such as cell phones. Reach a larger client base. √ (2)

Total [20]

Question 4

4.1 Use a combination of uppercase & lower case characters
Increase the length of the password
Include other non numeric/alpha characters
(Any 3 valid answers) √√√ (3)

4.2 4.2.1 Using a computer and/or the Internet in a way that does not impact negatively on others. √ Certain norms/guidelines on specific applications are followed. (1)

4.2.2

4.2.2.1 Making illegal copies√ of software (to sell or use) that have copy rights to avoid payment for the product. √ (2)

4.2.2.2 Copying and pasting information in projects not acknowledging sources√ and passing it as your own work. √ (2)

(Any 2 valid answers)

4.3 4.3.1 Phishing:
A fraudster creates a bogus website√ identical to the original website. Users log on to update personal information which is then used to commit fraud. √ (2)

4.3.2 Identity theft:
In the 'virtual world' of the Internet, the customer is anonymous. The criminal steals your identity(username, password, ID number etc) √and uses this to steal from you. √ (2)

(Any 2 valid answers)

4.4 4.4.1 Upgrade to LCD that have no flicker. √ (1)
Take frequent breaks.

4.4..2 Sit on a comfortable chair. √
Sit using the correct posture. √
Take frequent breaks. (2)

(Any 2 valid answers) √√√

4.5 4.5.1 Edit data on screen before printing.
Send e-mails instead of letters to parents/teacher.
Send out bulk SMSs rather then memos.
Use two sides of the paper (3)
Use recycled toner.
Send empty cartridges etc. for recycling.
(Any 3 valid answers) √√√

4.5.2 Call companies that specialise in disposal of this nature to collect the equipment.
Give the old equipment to disadvantaged communities.
(Any 2 valid answers) √√ (2)

Total [20]

Question 5

5.1 5.1.1 The arrangement of the buttons – could be in one line with the close button elsewhere. √
The blank textfield area should not be there. √
(Any 2 valid answers) (2)

5.1.2 The button labels could have familiar icons and labels that are more meaningful regarding their functionality. √
The form could have been labelled with a friendly label as to what the form accomplishes. √
(Any 2 valid answers) (2)

5.2 5.2.1 >=1000√ And <=9999√ (2)

5.2.2 The field is not unique. Many vehicles have the same model. √ (1)

5.2.3 >L<????????? √√ (2)

5.2.4 Veh_type="Mercedes" √ and Veh_model = 2001√√ (3)

5.3

Step	charge	amt	diff	diff<1	Loop counter<=diff	output
1	0					
2		40				
3						
4						
5			4			
6			4			
7				F		
9					T	
10	40					
11						1 √
12						40 √
9					T	
10	120					
11						2 √
12						120 √
9					T	
10	240					
11						3 √
12						240 √
9					T	
10	400					
11						4 √
12						400 √

(8)

5.4
```
Major ← 0
Minor ← 0
Count ← 0
Hours ← 0√
while hours < 32√√
begin loop
  Read reg number from keyboard√
  Read code from keyboard√
  If codeequals 1√
     Minor ← minor +1
     Hours ← Hours +1
     Count ← Count +1√
  Else√
     Major ← Major +1
     Hours ← Hours + 3
     Count ← Count + 1√
End loop
Output Major√√
Output Minor
Output Count
Output 32-Hours
```
(10)

5.5 5.5.1
```
Do√
  Read part √
While part <1000√ or part >9999√
```
(4)

5.5.2
```
Total = 2*7*1*5 = 70√√
Remainder = 70%11 =4√√
Output 4
```
(4)

5.5.3 Since the algorithm is dividing by 11 and keeping the remainder, the numbers will range from 0 to 10. √
There will be a lot of numbers that are repeated√ hence if the computer requires no repetition of numbers then this algorithm is a bad algorithm. (2)

)

Total [40]

Question 6

6.1	6.1.1	No need to carry cash – less risk of being robbed. √ Record of transfers will be available at the bank. √ Refunds can also be done electronically. Amounts will be readily available in any domain. *(any 2)*	(2)
	6.1.2	Have two or three PCs/Laptops with Internet access available to the clients for Internet banking. √√	(2)
	6.1.3	No cash on the premises – minimizes robberies. √ No need to travel to bank to deposit cash.	(1)
6.2	6.2.1	Short range high frequency radio waves used for the transfer of files.	(1)
	6.2.2	No, √ communication via Bluetooth is free. √	(2)
	6.2.3	Infra red works on a line of sight principal√ whereas Bluetooth signals can pass through obstacles. √	(2)
6.3	6.3.1	If your computer crashes, √ you can recover your data √from the backed up files.	(2)
	6.3.2	No. √ You only need to back up data files. Program files can be re-installed from the original software disks. √	(2)
	6.3.3	When the computer is switched on, programs from the registry is loaded into RAM √hence the spyware will be activated. √	(2)
	6.3.4	If you install a program that interferes with the running of your PC or a virus affects your PC√ , you can use system restore to bring your computer to an earlier date√ where it was working properly. Work done after the restore date to the infection date will be lost.	(2)
6.4	6.4.1.1 6.4.1.2 6.4.1.3	Dial-up√ iBurst√ ISDN/ADSL√	(3)
	6.4.2	The hard disk is failing√ You may have another disk eg. Stiffy, CD, Flash disk in your PC from which the PC is trying to boot up. √	(2)

6.4.3 When you are using the laptop on battery power, you need to use minimum power √so that you can work for many hours. √ (2)

6.4.4 Your PC is networked and instead of printing to the local printer, √ you printed to the network printer which is situated elsewhere. √ (2)

6.5 Mailing lists are used to send e-mail messages about common topics√ to all members who have joined the list. √ Newsgroups are special networked computers which stores messages on thousands of topics. √ The message is not sent to people. People have to log on. √ (4)

6.6 6.6.1 Software written with the intention to infiltrate √ computer systems, damage the computer or corrupt data without authorisation. √ (2)

6.6.2 Software used to detect √ and remove √ viruses. (2)

6.6.3 Download recent updates/signatures from the Internet at regular intervals. √ (1)

6.6.4 Yes, √
Standalone computer can also be infected from removable storage mediums which the user may use on the set√ (2)

6.7 The uninstall feature removes all the files that were required by the program. √It also removes references to the software from the registry. √ Deleting the shortcut and folder would not accomplish this. (2)

6.8 6.8.1 Reduce the size√ of the files so that they take less storage space or can be transferred quickly over the Internet. √ (2)

6.8.2 WinZip/ WinRAR√ (1)

6.9 Normal faxing sends a document from one fax machine to another √whereas Internet faxing requires signing up with a ISP that translates the e-mail to and from a fax. √ (2)

Total [45]