

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 (8)
 difference to the levels of detail and speed. √
 Increase clock speed/ clock multiplication.
- 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 (2)
 System and all other programs and data
 required. √
- 2.1.3.2 Free up hard disk space.√ (2)
 Do a disk defrag. √
- 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. ✓ (2)
(any two features)
- 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 than 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 \leftarrow 0
 Minor \leftarrow 0
 Count \leftarrow 0
 Hours \leftarrow 0
 while hours < 32
 begin loop
 Read reg number from keyboard
 Read code from keyboard
 If code equals 1
 Minor \leftarrow minor + 1
 Hours \leftarrow Hours + 1
 Count \leftarrow Count + 1
 Else
 Major \leftarrow Major + 1
 Hours \leftarrow Hours + 3
 Count \leftarrow 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 Dial-up ✓
6.4.1.2 iBurst ✓
6.4.1.3 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]