



**KZN DEPARTMENT OF EDUCATION
GREENBURY SECONDARY SCHOOL
MARCH CONTROL TEST 2017
INFORMATION TECHNOLOGY
GRADE 10**

EXAMINER: M PADAYACHEE

MODERATOR: S NAIDOO

MARK: 60

DATE: 20 – 03 – 2018

DURATION: 1 ½ HOURS

INSTRUCTIONS TO CANDIDATES:

1. Ensure that this paper contains 5 questions on 6 pages.
2. Answer all questions.
3. Number your answers exactly as the questions.
4. Use the mark scheme as a guideline with regard to the length of your answers.
5. Write clear and concise answers in a neatly and legible form.

QUESTION ONE – { Multiple Choice }

Write down the letter of the alternative that best matches the statement or question above it.

1.1 A type of memory found inside the CPU.

- A) Registers
- C) L2 Cache

- B) DRAM
- D) Flash

1.2. A term used to describe a device that is plugged in directly into a port and used immediately.

- A) USB
- C) Plug n play

- B) Hot Pluggable
- D) Compatible

1.3. Programs and instructions are temporarily stored in/on the _____.

- A) Hard disk
- C) Read only Memory

- B) Random Access Memory
- D) Flash Memory

1.4. Which of the following is not an example of system software.

- A) Android
- C) Microsoft

- B) Linux
- D) Apple OS X

1.5. Which of the following is true about Freeware and Shareware?

- A) Both do not allow you to download and share with friends.
- B) Both allow you to download and share with friends.
- C) Both use 'Try before you buy' rule.
- D) Both allow access to source code.

1.6. 1TB = _____

- A) 1000 000kb
- B) 1024gb
- C) 1000 000mb
- D) 1000gb

1.7. An area of memory where programs that are opened or running is temporarily stored.

- A) HDD
- B) ROM
- C) RAM
- D) CPU

1.8. When bits are transferred one after the other in a single channel, it is referred to as:

- A) Serial transmission
- B) Parallel transmission
- C) Express transmission
- D) Full Duplex transmission

1.9. Which of the following is an incorrect difference between primary and secondary storage?

- A) Internal memory is more expensive than secondary memory.
- B) Primary memory is temporary while secondary memory is more permanent.
- C) RAM faster than secondary memory.
- D) Primary memory is unlimited compared to secondary memory.

1.10. Which of the file extensions is the odd one out?

- A) jpeg
- B) gif
- C) BMP
- D) mp4

[10]

QUESTION TWO

Choose the correct term in column B to match the description in column A. Write down only the number of the question and the letter of the choice that matches it.

Column A	Column B
2.1. A serial port that is responsible for high speed video and camera connections.	A DRAM
2.2. The area found at the bottom of the Desktop that indicates the programs that are running.	B Shareware
2.3. Software that tells the OS about a device that is connected to the computer and how to use it.	C Laser
2.4. When data is transferred within the computer many bits at a time along several wires.	D Dual Core
2.5. The software responsible for checking configuration and system settings.	E Taskbar
2.6. A single chip that can house four processors.	F File Compression
2.7. Software you may use on a trial basis after which you will be charged for using it.	G Serial
2.8. Type of printer that uses static electricity to bind toner to paper, then fuses the toner to the paper using heated rollers.	H Utilities
2.9. The process of shrinking a file so that it occupies less storage space.	I Freeware
2.10. To prepare a disk for storage by clearing its contents.	J Quad Core
	K Driver
	L Format
	M Firewire
	N CMOS
	O SRAM
	P Parallel
[10]	

QUESTION THREE

Write down whether each of the statements below is true or false. If false give a reason by correcting the statement.

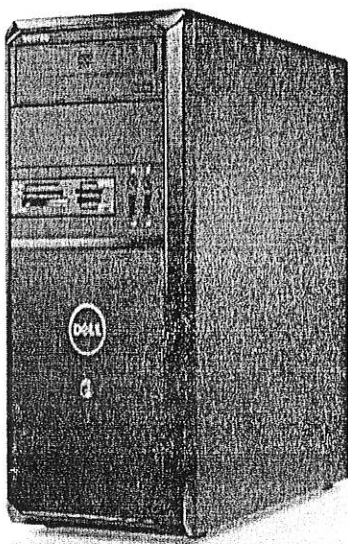
- 3.1. The BIOS of a computer is found on a ROM chip and not in RAM.
- 3.2. Piracy refers to copying somebody else's work and presenting it as your own.
- 3.3. Drivers are programs that add value and features to your system.

- 3.4. Microcomputers are usually only used for tasks that only countries, government agencies and the military can afford – such as genetic research, weather forecasting, atomic research, simulations etc.
- 3.5. A stand alone operating system is an OS that forms part of a large network.

[5 x 2 = 10]

QUESTION FOUR [HARDWARE AND SOFTWARE]

Study the quotation presented by the school technician. This computer was recommended for the secretaries at the office.



Dell Vostro V270 Desktop

SKU: 64855

R8 999,99

Your busy office requires optimal performance you can rest easy knowing that your data and your systems are protected with the help of both software and hardware security. *Excludes monitor*

DELL

- Intel i5 – 3289 Processor 3.6 GHz
- Windows 10
- DVD Writer 16x
- WLAN 803.12 and Ethernet Connectivity
- 19-1-1 Memory card reader
- Integrated 5.1 HD audio
- Intel HD Graphics
- 4GB RAM
- 1 TB HDD (SATA)
- 3 year Warranty

- 4.1. Would you recommend this computer if the secretaries do more work at home than at school? What computer would you recommend? (2)
- 4.2. When using this computer, will the user be using a command line interface or a graphical user interface? Give a reason based on the information supplied. (2)
- 4.3. Write down the size of the hard disk space of the computer. (1)
- 4.4. A kilobyte contains 1024 bytes. Briefly explain why this is not 1000 bytes. (1)
- 4.5. What does the abbreviation SATA stand for? (1)
- 4.6. Name the processor and its manufacturer from the quotation. (2)

- 4.7. What is the speed of this processor? (2)
- 4.8. This computer comes with **Windows 10** as its operating system.
- 4.8.1. What type of software is an operating system classified as? (1)
- 4.8.2. What is open source software(OSS)? (2)
- 4.8.3. Name two possible disadvantages of using open source software. (2)
- 4.9. Discuss the four main functions of the operating system. (4)
- 4.10. It was suggested that prices for the three different types of monitors be obtained first before purchasing. List the three different types. (3)
- 4.11. Tabulate two differences between a SSD and SATA drives. (4)
- 4.12. Fully discuss the term *Biometric Input* and give two examples of it. (3)

[30]

QUESTION FIVE {GENERAL QUESTIONS – INTEGRATED SCENARIO}

- 5.1. State two structural differences between desktops and laptops. (2)
- 5.2. Describe briefly how an instruction is processed by the CPU and why this process gets faster when the RAM is increased. (2)
- 5.3. Defrag is an important software used by the operating system. What type of software is this? What does it do? (2)
- 5.4. List two differences between RAM and secondary Storage. (4)
- 5.5. Explain the difference between “**cut and paste**” and “**copy and paste**” when working with documents. (2)
- 5.6. List two unique characteristics of a smartphone that makes it different from a computer. (2)

5.7. Explain the terms:

- 5.7.1. Download (2)
- 5.7.2. Install (2)
- 5.7.3. CMOS (2)

5.8. Explain how a Blu-ray disk is different from DVD. (2)

5.9. The CPU has a very special type of memory called CACHE memory?

- a) What is this memory made up of and how does it help the CPU? (2)
- b) Explain what is L1 and L2 cache memory. (2)
- c) Why is cache memory so small compared to normal RAM? (2)

5.10. Explain in your own words what you understand by the term:

- 5.10.1. Green Computing (1)
- 5.10.2. Digital Divide (1)

[30]

GRAND TOTAL = 90 ÷ 3 x 2 = 60

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MARKING MEMO – SUGGESTED ANSWERS

Question One

- 1.1. A
- 1.2. C
- 1.3. B
- 1.4. C
- 1.5. B
- 1.6. B
- 1.7. C
- 1.8. A
- 1.9. D
- 1.10. D

2.1. M

2.2. E

2.3. K

2.4. P

2.5. N

2.6. J

2.7. I

2.8. C

2.9. F

2.10. L

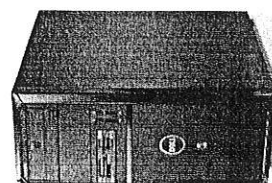
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15/03/2018

Question Three

- 3.1. True
- 3.2. False/Plagiarism
- 3.3. False/Utilities. Drivers help OS understand external devices.
- 3.4. False/Supercomputers. Microcomputers are normal desktops at home/school.
- 3.5. False/A stand alone is not connected to any networks.

QUESTION FOUR [HARDWARE AND SOFTWARE]

Study the quotation presented by the school technician. This computer was recommended for the secretaries at the office.



Dell Vostro V270 Desktop
R8 999.99
The Dell Vostro V270 Desktop is a powerful and reliable PC for your business. It features a 3289 Processor, 3.6 GHz, 4GB RAM, and a 1TB HDD (SATA). It also includes a DVD Writer, WLAN 802.11 and Ethernet Connectivity, and a 19.5" Memory Card Reader. It is backed by a 3-year warranty.

- > Intel i5 - 3289 Processor 3.6 GHz
- > Windows 10
- > DVD Writer 16X
- > WLAN 802.11 and Ethernet Connectivity
- > 19.5" Memory Card Reader
- > Integrated 5.1 HD audio
- > Intel HD Graphics
- > 4GB RAM
- > 1 TB HDD (SATA)
- > 3 Year Warranty

4.1. Would you recommend this computer if the secretaries do more work at home than at school? What computer would you recommend? (2)

No. I would recommend a laptop computer as it is portable and they could take it home and complete their work without having to save documents and transfer.

4.2. When using this computer, will the user be using a command line interface or a graphical user interface? Give a reason based on the information supplied. (2)

GUI - Windows 8 is a graphical user interface.

4.3. Write down the size of the hard disk space of the computer. (1)

1 terabyte

4.4. A kilobyte contains 1024 bytes. Briefly explain why this is not 1000 bytes.

Because the storage increases in powers of 2. E.g. $2^3 = 4$, $2^5 = 8$, $2^4 = 16$... $2^{10} = 1024$.

4.5. What does the abbreviation SATA stand for? (1)

Serial Attachment

4.6. Name the processor and its manufacturer from the quotation. (2)

Name is Intel, manufacturer Intel

4.7. What is the speed of this processor? (2)

3.6 GHz

4.8. This computer comes with Windows 10 as its operating system.

4.8.1. What type of software is an operating system classified as? (1)

System Software

4.8.2. What is open source software(OSS)? (2)

Software that may be downloaded and shared. The source code is made available and changes may be made and shared with others.

4.8.3. Name two possible disadvantages of using open source so. are. (2)

- has limited features ✓
- May contain viruses or malware ✓

4.9. Name and describe any two major functions of the operating system. (4)

File I/O ✓ Controls and manages saving and retrieving of files from the hard drive as well as other external storage media. ✓

Device I/O ✓ Controls and manages all different devices that are connected to the motherboard of the computer. ✓ ** Choose any 2*

Process management – Controls and manages all processes taking place in the CPU.

Memory management ✓ Controls and manages all forms of memory. It allocates memory available to different tasks and/or programs. Manages the Hard disk space.

4.10. It was suggested that prices for the three different types of monitors be obtained first before purchasing. List the three different types. (3)

- CRT – cathode ray tube ✓
- LCD – Liquid Crystal Display ✓
- LED – Light Emitting Diode ✓

4.11. Tabulate two differences between a SSD and SATA drives. (4)

SATA	SSD
1. Moveable parts ✓	1. No moveable parts ✓
2. Magnetic ✓	2. Electric ✓
3. Slow ✓	3. Fast ✓
4. Cheap ✓	4. Expensive ✓
	<i>ANY 2</i>

4.12. Fully discuss the term **Biometric Input** and give two examples of it. (3)

Biometric Input ✓ uses devices that can identify special human character traits and use it to grant or deny access to systems e.g. Iris Scanner or Fingerprint scanner

QUESTION FIVE {GENERAL QUESTIONS – INTEGRATED SCENARIO}

5.1. State two structural differences between desktops and laptops. (2)

- Desktops are bulky while laptops are light ✓
- Desktops are fixed and laptops are moveable or portable/mobile ✓ *ANY 2*
- Desktops must have a constant connection to power supply laptops may use a battery ✓

5.2. Describe briefly how an instruction is processed by the CPU and why this process gets faster when the RAM is increased. (2)

The CPU can only process an instruction when it comes from RAM. The bigger the RAM, the more instructions can pass from the RAM to CPU. Otherwise, the instruction has to be converted from magnetic memory to Electric memory and this takes time.

5.3. Defrag is an important software used by the operating system. What type of software is this? What does it do? (2)

- It is used to find all files belonging to the same category and move them to a single sector or close by on a disk. This makes finding them very easy. Thus your computer gets faster access time for files improving the speed of the computer.

5.4. List two differences between RAM and secondary Storage. (4)

RAM	Secondary storage
1. Electric ✓	1. Magnetic ✓
2. Temporary / Volatile ✓	2. Permanent ✓
3. Expensive ✓	3. Cheaper ✓
4. Internal ✓	4. External ✓
5. Limited to motherboard space ✓	5. May increase- unlimited ✓
6. Can be accessed directly by CPU ✓	6. Cannot be accessed directly by CPU ✓
	<i>ANY 2</i>

5.5. Explain the difference between “cut and paste” and “copy and paste” when working with documents. (2)

Copy n paste – is when a copy of the selected text/pic is stored on the clipboard and then copied onto another location. So there is more than one occurrence of the item in the document.

Cut n paste means the item selected is removed from where it appears in the document and pasted in a completely new area. There is no copy of the item made.

5.6. List two unique characteristics of a smartphone that makes it different from a computer. (2)

- A smartphone is much smaller than a computer ✓
- A smartphone has a less powerful processor ✓
- A smartphone has a smaller and less powerful OS than a computer ✓
- A smartphone has a smaller screen/touch screen. Not all computers come with touch screen ✓ 4 NY 2
- A smartphone has a smaller secondary storage ✓

5.7. Explain the terms:

5.7.1. Download (2)

To Download means to extract a document from the ~~net~~ and place it onto the Hard Drive of a device.

5.7.2. Install (2)

To install means to be able to unpack the downloaded file and make it executable on the computer.

5.7.3. CMOS (2)

Is a combination of hardware and software that is stored on ROM chips that ensures that the computer's configuration is correct. It also supplies the clock with electricity to keep it running when the PC is switched off. ✓

5.8. Explain how a Blu-ray disk is different from DVD. (2)

- Stores larger volume of data than DVD ✓
- Is faster because of Blue laser instead of the red of DVD. ✓

5.9. The CPU has a very special type of memory called CACHE memory?

a) What is this memory made up of and how does it help the CPU? (2)

- it is made up of SRAM – It stores the most frequently processed instructions so there is no need to keep on retrieving from RAM. Thus processing gets faster. ✓

b) Explain what is L1 and L2 cache memory. (2)

L1 – Found inside the CPU ✓

L2 – Found outside the CPU between CPU and RAM. ✓

c) Why is cache memory so small compared to normal RAM? (2)

- Because the CPU is small and you cannot store a lot of cache since it is constructed from SRAM and it is bulky. ✓

5.10. Explain in your own words what you understand by the term:

5.10.1. Green Computing (1)

Is when computers are designed in such a way that it does not have a negative impact on the environment. ✓

5.10.2. Digital Divide (1)

Is the technological gap that exists between the haves and have not's. While some people in the world have extremely advanced technologies even in the poorest of areas, there are some people who have no technology available at all. ✓

