



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

EXAMINER: M PADAYACHEE  
DATE: 29 – 03 - 2017  
DURATION: 1 ½ HOURS

MODERATOR: S NAIDOO  
MARK: 60

**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. \_\_\_\_\_ is non-volatile memory that can be used as secondary storage.

- |                 |                 |
|-----------------|-----------------|
| A) SRAM         | B) DRAM         |
| C) Flash memory | D) Cache memory |

1.2. The smallest unit of data that a computer can store is a \_\_\_\_\_.

- |                 |             |
|-----------------|-------------|
| A) Binary digit | B) Byte     |
| C) Megabyte     | D) Gigabyte |

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

- |                     |                         |
|---------------------|-------------------------|
| A) Hard disk        | B) Random Access Memory |
| C) Read only Memory | D) Flash Memory         |

1.4. Digital images consists of pixels. The number of pixels making up the image is referred to as the...

- |                 |                  |
|-----------------|------------------|
| A) Resolution   | B) CRT           |
| C) Refresh rate | D) Response time |

1.5. The following is not an example of system software:

- A) Windows Home
- B) Norton Antivirus
- C) Linux
- D) Symbian

1.6. An example of an input and output device is \_\_\_\_\_.

- A) Monitor
- B) Scanner
- C) Speaker
- D) Touchscreen

1.7. A \_\_\_\_\_ port is a serial port that is responsible for high speed video and camera connections.

- A) Firewire
- B) HDMI
- C) USB
- D) LPT

1.8. The part of the CPU that is responsible for temporary storage of data and instructions is the...

- A) CU
- B) Register
- C) ALU
- D) Buses

1.9. Which of the following is not a difference between primary and secondary storage?

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

1.10. The software responsible for checking configuration and system settings is the \_\_\_\_\_.

- A) CMOS
- B) POST
- C) BIOS
- D) ROM

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[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. Is a faster type of RAM that assists the CPU to deal with the slow rate of normal RAM.	A DRAM
2.2. To prepare a disk for storage by clearing its contents.	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. Software you may use on a trial basis after which you will be charged for using it.	D Dual Core
2.5. Programs that assist in managing or fixing problems in a computer.	E Taskbar
2.6. Type of printer that uses static electricity to bind toner to paper, then fuses the toner to the paper using heated rollers.	F Compression
2.7. When data is transferred within the computer one bit at a time along a single channel.	G Serial
2.8. A single chip that can house four processors.	H Utilities
2.9. The process of shrinking a file so that it occupies less storage space.	I Freeware
2.10. The area found at the bottom of the Desktop that indicates the programs that are running.	J Quad Core
	K Driver
	L Format
	M Defrag
	N Dot Matrix
	O SRAM
	P Parallel
[10]	

## QUESTION THREE

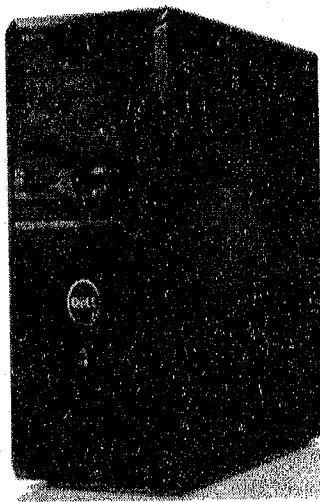
Write down whether each of the statements below is true or false. If false give a reason by correcting the statement.

- 3.1. A jpeg file is an audio file.
- 3.2. Copyright refers to copying somebody else's work and presenting it as your own.
- 3.3. Utilities 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. An Embedded OS does not form part of any network or is not to be connected to the Internet.

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## QUESTION FOUR [HARDWARE AND SOFTWARE]

Your school wants to buy new computers for the Office and for learners who are currently doing IT. Your advise is required in choosing the right computer. Use your knowledge of hardware and software to assist in the decision making. Study the advert given by one of the suppliers and answer the questions:



Dell Vostro V270 Desktop  
SKU: 64656

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\*



- Intel® i5-3450 Processor 3.10GHz.
- Windows 8 Pro.
- DVD writer 16x.
- WLAN 802.11 and Ethernet connectivity
- 19-in-1 Memory card reader.
- Integrated 5.1 HD audio.
- Intel® HD Graphics.
- 4GB RAM.
- 1TB HDD.
- 3 Year warranty.

- 4.1. Comment on the suitability of this computer for the secretaries if they do a lot of work away from the office. (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 in this computer. (1)
- 4.4. A kilobyte contains 1024 bytes. Briefly explain why this is not 1000 bytes. (1)
- 4.5. Explain the difference between a bit and a byte. (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 8** 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. State the four main functions of the operating system. (4)
- 4.10. Somebody suggested a CRT monitor because it is cheap. Why do you think that this is a bad suggestion? Use the information from the advert to supplement your answer. (3)
- 4.11. Tabulate two differences between a SSD and HDD. (4)
- 4.12. Fully discuss the term *Biometric Input* and give two examples of it. (3)

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**QUESTION FIVE {GENERAL QUESTIONS – INTEGRATED SCENARIO}**

- 5.1. List two differences between a Laptop and a Desktop computer. (2)
- 5.2. Explain how adding more RAM to your computer can make it faster. (2)
- 5.3. Explain why it is important to defrag your computer? (2)
- 5.4. State two differences between RAM and secondary Storage. (4)
- 5.5. Explain the difference between “save” and “save as” when saving documents. (2)
- 5.6. List two characteristics of a smartphone. (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. *Cache memory is important in processing instructions. It helps make your computer faster.*

- a) What is the purpose of Cache memory? (2)
- b) Where is this type of memory generally found. Discuss all possible forms of cache. (4)
- c) Why is cache memory so small compared to normal RAM? (2)

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**GRAND TOTAL = 90 ÷ 3 x 2 = 60**

**MARCH CONTROL TEST 2017**  
**Information Technology**  
**GRADE 10**  
**SUGGESTED ANSWERS!**

**QUESTION ONE**

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

**QUESTION TWO**

- 2.1. O
- 2.2. L
- 2.3. K
- 2.4. B
- 2.5. H
- 2.6. C
- 2.7. G
- 2.8. J
- 2.9. F
- 2.10. E

**QUESTION THREE**

- 3.1. False. A jpeg file is a picture file.
- 3.2. False. Plagiarism is copying somebody's work.
- 3.3. True
- 3.4. False. Supercomputers are used by governments and space research etc.
- 3.5. False. A stand alone computer is not part of a network.

**QUESTION FOUR**

- 4.1. It is not suitable. They will not be able to carry this computer out of the office. Therefore a laptop will be more suited to them.
- 4.2. Graphic User Interface. The OS in this computer is Windows 8.
- 4.3. 1 terabyte
- 4.4. The computer uses 8 bits. The number of storage units increases in powers of 2 e.g.  $2^3 = 8$  and  $2^{10} = 1024$ .
- 4.5. A binary digit (0 or 1) and a byte is made up of 8 bits.
- 4.6. Processor, Intel, manufacturer
- 4.7. 3.1GHz

**4.8.1. System Software.**

**4.8.2.**

Open source software is software made available with a license that allows you to access and modify the source code, but not to sell the software – and the changes you make go back to the community that uses the software.

OSS is therefore more than simply free software. It is software where not only can you get the program freely, but you can also get the source code to the software and make changes to the software that you want to see happen yourself. In other words, you do not have to wait for a company to add a feature or fix a bug – you CAN do so yourself.

**4.8.3.**

- No one to hold responsible.
- Risk of poor support.
- Higher skills needed if you want to use this model to its fullest potential.
- Various 'varieties' of the same software can arise.

**4.10.** The CRT monitor is an older bulkier monitor that is now obsolete. They will not be able to cope with the Graphical demands of Windows 8. Images will not appear unclear. The take up too much space.

They have a low resolution. They generate too much of heat and is not energy compliant.

**4.11.**

SSD	HDD
<ul style="list-style-type: none"> <li>1. Is made up of Electronic circuitry built using SRAM.</li> <li>2. Stores data electronically.</li> <li>3. Faster than HDD</li> <li>4. Uses less power</li> <li>5. More reliable than HDD.</li> <li>6. Has no moving parts</li> </ul>	<ul style="list-style-type: none"> <li>1. Is made up of a disk with platters and RW heads.</li> <li>2. Stores data magnetically.</li> <li>3. Slower than SSD.</li> <li>4. Requires more power to spin disk and for RW Heads.</li> <li>5. Very unreliable compared to SSD</li> <li>6. Consists of a RW-Head that moves while the disk itself spins.</li> </ul>

**4.12.** Biometrics is a way to uniquely recognise humans based on their physical characteristics such as fingerprints or retinal scans. In order to recognise a person, the data about that person must be stored in the system e.g. sample fingerprint.





QUESTION FIVE

5.1.

LAPTOP	DESKTOP
1. Portable-smaller in size and compact.	1. Larger more bulkier.
2. No loose cabling	2. Lots of loose cabling
3. Has a batter that needs to be charged.	3. No battery.
4. Does not power point to work.	4. Always requires a power point to work.
5. Can move around freely –easy to carry	5. Cannot move-fixed – cannot carry around.
6. Screens are usually higher quality	6. Not necessarily high quality screens
7. Not easy to upgrade.	7. Can be customised easy to upgrade.

5.2. RAM is electric therefore on its own it is much faster than secondary storage. All data to be processed by the CPU is taken only from RAM(which comes from sec. storage). Hence the bigger the RAM, the more instructions and data it can hold for the CPU to process. Otherwise it has to be fetched from the secondary storage. Inevitably the processing of instructions by the CPU will speed up if the RAM is bigger and this will make your computer faster.

5.3. When files are stored in your HDD, they are place in the first available place. This makes your HDD fragmented. To find files that are stored all over the place in no particular order makes retrieving a nightmare. Defrag takes all files with the same extensions and place them together and organises the storage space. This makes retrieval very fast. Your computer will not get very slow.

5.4.

Secondary Storage	RAM
1. Magnetic	1. Electric
2. Unlimited – may be increased indefinitely	2. Smaller – may be increased up to a point
3. Very cheap compared to RAM	3. Expensive
4. Must be converted to RAM before accessed by CPU.	4. Directly accessed by CPU
5. Slower compared to RAM	5. Much faster than secondary storage.
6. Non-volatile – can be recovered if power failure.	6. Volatile data lost during power failure

5.5. Save – i when you save a document without specifying a name it means that save will save the current document with the current name and destination. If save is used for the first time for a document you have to specify a name. In essence save is used when changes are made to an existing document.

Save as is used when a document is saved for the first time or when a document is to be saved with a new name or destination.

5.6. – It has a bigger more powerful screen  
 - it has internet connectivity  
 - it has an operating system  
 - it has a camera

5.7.1. Download – means to transfer documents from the internet onto your computer.

5.7.2. it means to unpack a software onto the hard drive of a computer.

5.7.3. CMOS – is a battery that offers power to the computer so that when it is on, the clock on the computer is still operational. It also checks configuration information.

5.8. Blu Ray can store a much larger amount of data compared to DVD. Blu Ray is the next generation to DVD, as it is able to record, store and playback HD video and digital audio as well as computer data.

5.9. a) CACHE works at a much higher frequency than RAM. Problems occur when the CPU has to wait to process data coming from the much slower RAM. CACHE memory is memory(SRAM) found inside the CPU that keeps frequently used instructions that is likely to be needed next by the CPU for processing.

b) Inside (L1) , Close to CPU(L2) , L3 on the motherboard

c) CACHE is made up of SRAM which is bulkier. The size generates a lot of heat hence the CPU may have issues dealing with cooling systems. Therefore not much can fit in the CPU. It is also very expensive to manufacture.

