Stanmore Secondary School

Department of Mathematics & Information Technology

First Controlled Test 2019

GRADE 11 - INFORMATION TECHNOLOGY

Time: $1\frac{1}{2}$ Hour

Max Marks: 60

Examiner: Mr S. Naidoo

Moderator: Mr AF Gabriel (Woodview Sec)

Instructions

1. Answer all questions.
2. Only answers written in ink will be marked.
3. Write neatly and legibly.
4. This question paper consists of **FIVE** questions in **SIX** pages.

Question One: MULTIPLE CHOICE

For each question, 1.1. to 1.10. there are four options for the question above it.
Choose the option(A-D) that best matches the question and write down only the letter of your choice.

1.1. The speed of the CPU is measured in:

 A. Megahertz
 B. Bits per second(Bps)
 C. Gigabytes(GB)
 D. Megabytes(MB)

1.2. It enables more than one program or parts of the same program to be processed at the same time on different processors.

 A. Multiprogramming
 B. Multitasking
 C. Multiprocessing
 D. Simultaneous processing

1.3 A device driver ...

 A. is unnecessary when plug and play is implemented.
 B. is firmware which is embedded in new devices manufactured after 2005.
 C. is automatically included in any new device which implements hotswapping.
 D. is software that provides communication between a peripheral and the operating system.

1.4 An internal bus ...

  A. is the pathway used to transfer data between CPU and RAM
  B. connects printers to stand-alone PCs.
  C. stores the results of calculations performed in the CPU.
  D. comes in several types, such as data, instruction or address.

1.5 Firewire is ...

  A. becoming the preferred method to connect almost any peripheral to a computer.
  B. the best data connection to use for capturing a digital video.
  C. a parallel communication standard which allows devices to transfer data at high speeds.
  D. software that prevents unauthorised access to a network.

1.6 A small text file which is stored by a web server on your computer and which contains personal data such as your username or your Internet surfing preferences, is known as ....

  A. Spyware
  B. Cookie
  C. Digital Signature
  D. Spam

1.7 The hardware component used in the start-up of a computer.

  A. CPU
  B. BIOS
  C. USB
  D. UPS

1.8 ... is non-volatile memory that can be used as secondary storage.
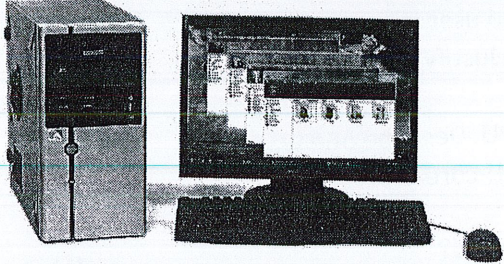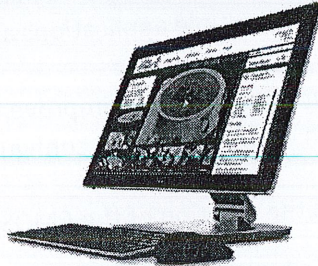
  A. SRAM
  B. DRAM
  C. Flash memory
  D. Cache memory

1.9 Which operating system has been designed specifically to work on a cellphone?

  A. Android
  B. Solaris
  C. Windows Vista
  D. Linux

1.10 An IRQ stands for

  A. Interrupt Request
  B. Internal Request Query
  C. Interruption Query
  D. Interrupt Relay Line

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Question Two:

Computer A: Mecer Proficient – Professional Desktop	Computer B: Dell Inspiron 23 All-in-One Touch Screen Desktop
3.4GHz 3M Intel dual-core i3-4130 4GB DDR3-1,600MHz 500GB HDD, SATA III Intel Integrated Graphics W/DVI + VGA + DP 19.5" 16 x 9 TFT LED Wide Monitor 6 x Serial ATA III, 6 x USB3.0 (2 by Header), 8 x USB2.0 (6 by Header) 1 x PCI Express 3.0 x16 Slot DVD+RW/DVD- Super Multi SATA Drive Microsoft Windows 8.1 64Bit Intel High Definition Audio (5.1 + 2-Channel) Intel Matrix Storage (RAID 0/1/5/10) Microsoft Security Essentials Anti-Virus	2.4GHz Intel quad-core i7-4700MQ 12GB DDR3-1,600MHz 1TB HDD, SATA III 2GB AMD 8690A Graphics 23-inch, 1,920x1,080 touch screen 4 x USB 3.0 ports, 2 x USB 2.0 ports, a SD card reader, and HDMI-in and -out ports built into its base Gigabit Ethernet, 802.11b/g/n, Bluetooth 4.0 Microsoft Windows 10.1 64Bit

Scenario

The current IT learner's would like to upgrade the school's library facilities. As part of the upgrade, the Grade 11 committee have suggested purchasing an IT infrastructure for the library and have requested your assistance in evaluating certain proposals.

Study the adverts above and answer the questions that follow.

Questions

2.1 The two computer under consideration have a 3.4GHz and a 2.4GHz processor

2.1.1 What does GHz measure?

(1)

2.1.2 Which processor should be more efficient when the end user is busy with running multiple applications and surfing the Internet? Justify your answer.

(2)

2.2 Cache memory helps to improve the performance of a CPU. Describe one way in which cache memory is configured to be utilised in multi-core processors.

(1)

2.3 What is the function of the CMOS chipset of the motherboard?

(1)

2.4 Both PCs have an on-board BIOS

2.4.1 Which term best describes the BIOS of the computer:
software, hardware or firmware

(1)

2.4.2 What are the two main functions of the BIOS?

(2)

2.5 What type of device will typically be connected to a motherboard via a SATA connection?

(1)

2.6 Which type of connection would you use to connect the graphics card to the motherboard.

(1)

2.7 Explain what the computer would do to enable it to continue working, if it had insufficient memory.

(2)

2.8 It was suggested that the computers be fitted with Solid State Drives (SSDs). Briefly explain what benefits a Solid State Drive will provide over the drives that are currently listed in the adverts?

(1)

2.9 Differentiate between 3.5" and 2.5"portable hard drives.

(2)

[15]

Question Three

In the interest of cutting down on costs, the committee purchased computer system A. The committee now has to settle on software.

3.1 The librarian looks at the quotation and wants to know if the Operating System is really necessary

3.1.1 Which operating system comes with this PC.

(1)

3.1.2 Name four functions of the operating system

(4)

3.2 Name the device/s that uses the following Operating systems

3.2.1 Windows

3.2.2 OSX

3.2.3 Android

3.2.4 IOS7

(4)

3.3 Differentiate between multithreading and multiprocessing. (2)

3.4 Explain the term virtual memory.

(1)

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Question Four

As there are many threats in the ICT world, the principal asked the grade 11 learners how to keep all the data in the library computer safe.

4.1 State any 3 type of threats to data.

(3)

4.2 Differentiate between a virus and a computer worm.

(2)

4.3 Give 2 reasons on how the librarian can be a threat to the data.

(2)

4.4 Power problems can lead to loss of data. Name 1 hardware device that can be purchased to prevent this problem from happening.

(1)

4.5 There are ways to combat threats to data.

4.5.1 List 2 tips on backing up the computer.

(2)

4.5.2 List 2 disadvantages of using online backup.

(2)

4.5.2 What software can be purchased to prevent malware threats to the data?

(1)

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Question Five

Background:

To avoid a password from being cracked or guessed, the following rules are required to be followed:

- The password must be minimum 8 letters long.
- The password must start and end with an uppercase letter.

If all the above rules are met, the password chosen is valid.

Write an algorithm using pseudocode that will:

1. Ask the user to enter his password.

    (1)

2. Test the password for minimum 8 letters. If The password falls short of 8 letters, show an appropriate message.

    (3)

3. Test the password to validate if the first letter is uppercase. If the password does not have the first letter as uppercase, display an appropriate message.   (6)

    [10]