Centenary Secondary School

June Examination – 2012

Information Technology - Paper 2

Grade 10 Time: 2 hrs Marks: 100

***Answer memo***

Question 1

|  |  |
| --- | --- |
| Multiple Choice  1.1.1 I  1.1.2 K  1.1.3 A  1.1.4 H  1.1.5 J  1.1.6 B  1.1.7 L  1.1.8 M  1.1.9 G  1.1.10 C | True and False  1.2.1 T  1.2.2 F  1.2.3 T  1.2.4 F  1.2.5 F  1.2.6 F  1.2.7 T  1.2.8 F  1.2.9 F  1.2.10T |

**[20]**

**Question 2**

2.1.1 mobility; small in size, light in weight, saves energy, and so it saves space [any 2] [2]

2.1.2 Computers are assembled from a variety of parts inside the case and peripherals outside that are used for input, processing and output. [2]

2.1.3 AMD [1]

2.1.4 INTEL [1]

2.1.5 (a) Random Access Memory [1]

(b) Random Access Memory (RAM) stores data and programs temporarily, before (and after) they are processed by the CPU, i.e. data/programs are moved from permanent storage (like the hard drive) into RAM; from here it is moved to the CPU for processing; from the CPU the processed data is moved back to RAM; and finally from RAM the data is stored back in the hard drive or output to the screen or printer [2]

2.1.6 (a) Stores data permanently (i.e. even though the computer is switched off) [2]

(b) It is a DVD drive which is used to write to dual layer DVD’s. [2]

(c) It is a camera mounted in or onto a computer. It is mostly used to capture one’s image and beam it across the Internet [2]

(d) A device used to read data from memory cards into a computer [2]

(e) Numbered keys on the keyboard, used to input numbers. [2]

2.2 It is a storage device made of a silicon chip. Usually small, therefore portable. Can store more data than a CD. [2]

2.3 Can print brochures and advertisements in colour. Can take photographs of customers and use them as publicity shots, etc. [2]

2.4 Data projector [2]

2.5 USB port – used to transfer any data between devices. Slow data transfer rate

Firewire port – used to transfer data (mainly pictures) to and from digital cameras and computers [4]

2.6 He needs to turn on Bluetooth on both devices, Ensure both devices are visible. Pair the devices to each other, Finally send data from one device to the other. [2]

**Question 3**

3.1.1 An operating system is a collection of programs designed to control and manage the operation of your computer [2]

and / or

provides programmers with a standard method of accessing and controlling hardware

[2]

3.1.2 The function of an operating system is to provide the user with a graphical user interface: a means by which we can interact with the computer and with programs and data in the computer without the user needing to have any knowledge of the inner workings of a computer. [2]

3.1.3 (a) Windows Server 2008 or UNIX

(b) Windows Mobile

(c) Windows 7 or Linux [3]

3.2.1 They are programs used to maintain and/or tweak the software and sometimes hardware of the computer. These are custom software packages to perform specialised tasks on the computer. E.g. Defrag, defragments the fragmented files on a hard disk; Disk Cleanup, to delete unused files; Software Restore – to restore the computer to a previous state. [2]

3.2.2 (a) An antivirus program [1]

(b) Compression utility like WinZip or WinRar [1]

(c) Backup and Restore3 [1]

3.3 System software:

Software used to manage and control the operation of the computer. E.g. the operating system, like Windows, Linux, Android, Apple OS X, Symbian, etc.

Application Software:

An additional set of programs to allow the user to do many different tasks, e.g. write letters, do accounts and budgets, play games, design houses, make movies, etc. [2]

3.4 No one to hold responsible for the shortcomings in the software

Risk of poor support

Higher skills needed if one wants to use this model to its fullest potential

Various ‘varieties’ of the same software can arise **[ANY 2]** [2]

**Question 4**

4.1.1 2

4.1.2 M

4.1.3 5; -4; 0; 7; -2 ; 8

TOT M M < 6? num num<0? Output

0 1 1<6? T 5 5<0? F

5 2 2<6? T -4 -4<0? T

0

5 3 3<6? T 0 0<0? F

5 4 4<6? T 7 7<0? F

12 5 5<6? T -2 -2<0? T

0

12 6 6<6? F 12 [4]

4.1.4 The flowchart is adding together all the whole numbers (i.e. numbers starting from 0 onwards) and assigning the answer to Tot which is then output [2]

4.1.5 The flowchart would then add only the negative numbers together [2]

4.2.1

|  |
| --- |
| num max sum1 sum2 repeat 12 times num MOD max=0? |
| 12 1 0 0 1 12 mod 1=0? T |
| 2 1 |
| 2 12 mod 2=0? T |
| 3 3 |
| 3 12 mod 3=0? T |
| 4 6 |
| 4 12 mod 4=0? T |
| 5 10 |
| 5 12 mod 5=0? F |
| 6 5 |
| 6 12 mod 6=0? T |
| 7 16 |
| 7 12 mod 7=0? F |
| 8 12 |
| 8 12 mod 8=0? F |
| 9 20 |
| 9 12 mod 9=0? F |
| 10 29 |
| 10 12 mod 10=0? F |
| 11 39 |
| 11 12 mod 11=0? F |
| 12 50 |
| 12 12 mod 12=0? T |
| 13 28 |

The output for sum1 is 28

The output for sum2 is 50

4.2.2 The script is adding all the factors of 12 and assigning it to sum1 and adding the non-factors of 12 and assigning it to sum2 which is then output [2]

4.3 [6]

enter num

prod=1

repeat num times

prod = prod \* num { 5 \* 4 \* 3 \* 2 \* 1 }

num = num - 1

output prod

**Question 5**

5.1.1.

|  |  |  |
| --- | --- | --- |
| 2 | 127 |  |
| 2 | 63 | R 1 |
| 2 | 31 | R 1 |
| 2 | 15 | R 1 |
| 2 | 7 | R 1 |
| 2 | 3 | R 1 |
| 2 | 1 | R 1 |
|  | 0 | R 1 |

12710 = 11111112

5.1.2

|  |  |  |
| --- | --- | --- |
| 16 | 456 |  |
| 16 | 28 | R 8 |
| 16 | 1 | R C |
|  | 0 | R 1 |

45610 = 1C816

5.2.1 1x26 + 0x25 + 1x24 + 1x23 + 0x22 + 1x21 + 1x20

= 64 + 16 + 8 + 2 + 1

= 91

10110112 = 9110

5.2.2 4x164 + 3x163 + 10x162 + 2x161 + 1x160

= 262144 + 12288 + 2560 + 32 + 1

= 277025

43A2116 = 27702510