COMPUTER APPLICATIONS TECHNOLOGY: PAPER I

MARKING GUIDELINES

Time: 3 hours   150 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

SECTION A

QUESTION 1

1.1   1.1.1   (a)   recycling
          (b)   copper   (2)

      1.1.2   (a)   e-commerce
          (b)   secure   (2)

      1.1.3   (a)   power supply unit
          (b)   motherboard   (2)

      1.1.4   (a)   the digital divide
          (b)   undersea   (2)

      1.1.5   (a)   smartphones
          (b)   operating system   (2)

1.2   1.2.1   True: A utility program like WinZip does reduce the size of the zipped files.   (2)

      1.2.2   True: Service providers such as Google do supply free e-mail accounts which
              can be accessed via a web browser.   (2)

      1.2.3   True: Presentation packages will allow the user to create slides with moving
              special effects.   (2)

      1.2.4   False: RSS stands for Really Simple Syndication.   (2)

      1.2.5   False: A search engine will search the World Wide Web for specified
              information.   (2)

                                                                                              [20]

QUESTION 2

2.1   B   (1)
2.2   A   (1)
2.3   B   (1)
2.4   C   (1)
2.5   C   (1)
2.6   D   (1)
2.7   C   (1)
2.8   C   (1)
2.9   B   (1)
2.10 C   (1)
                                                                                              [10]

30 marks

SECTION B

QUESTION 3

3.1   Small Office Home Office   (1)

3.2   *Any TWO valid components Main Functions:*
- Asus P5G41T-M LX IG41 Motherboard w/A8 + G + LK + SATA3: The main board of the computer to which all devices and components are connected.
- Cooler Master 690 II Plus Mid Tower Chassis – Black – Window – No PSU: The main system box in which all components are mounted.
- Asus 18.5" Wide 10 000:1 VH192D 250cd/m^2 5ms LCD Monitor: The output screen for display purposes.
- Manhattan RightTrack USB Mouse – Red: Input device for navigation around the computer desktop.   (4)

3.3   *Must choose the Samsung CLP-320 Colour Laserjet Printer.*
Accept any ONE valid reason: Able to do quality and quick prints.   (2)

3.4   *Any ONE valid reason: Advantage*
- The cost of a refilled cartridge is less than a new branded cartridge.
- The impact on the environment is lower as the plastic cartridge is re-used.

Any ONE valid reason: Disadvantage
- The print quality can be lower.
- The cartridge could leak and cause the printer to malfunction.
- Some manufacturers will not accept a warranty claim if refilled cartridges have been used.   (2)

3.5   3.5.1   The new device is automatically identified by the operating system. The operating system automatically allocates computer resources to the new device OR the operating system automatically loads the device driver.   (2)

        3.5.2   The computer does not need to be switched off when a device to be installed is hot swappable.   (1)

        3.5.3   *No, Spock does not need to purchase both drives.* All the work is done on one computer so there is no need for the data to be portable. Also, backups can more cheaply be done on CD/DVDs.   (3)

        3.5.4   Solid State Drives. (Do not accept Memory sticks, Flash Disks, USB sticks as these are used for portable storage not to replace the HDD.)   (1)

3.6   3.6.1   MP or Mpx (MegaPixels)   (1)

        3.6.2   *Any TWO valid answers*
- Bluetooth
- WiFi
- USB cables   (2)

        3.6.3   You would recommend that the photographs are stored as jpeg images. While bitmap images have a greater resolution than jpeg images, the files are much larger in size than jpeg images. Since the images are to be used on a website, the smaller file sized image is better as it will download quicker.   (2)

                                                                                                                              [21]

QUESTION 4

4.1   4.1.1   *System Software*: Software needed to operate and control the whole computer system. (1)

          4.1.2   *Applications Software*: Software that performs a specific task for the user. (1)

4.2   4.2.1   Device driver   (1)

          4.2.2   Spreadsheet program or accounting package (1)

4.3   4.3.1   Freeware (1)

          4.3.2   Shareware (1)

          4.3.3   Commercial software OR proprietary software (1)

4.4   4.4.1   A collection OR set of different programs which are linked together in order to be able to transfer data easily from one program to another.
You can also accept:
- A set on programs written by the same company that has a similar look and feel of operation.
- A set of programs with a common installation.
- A set of programs that shares common features such as macros.
- A set of programs with a common user interface.
- A set of programs sold as a single unit. (2)

          4.4.2   A product key is a code or set of characters supplied by the author of the software to ensure that only you have the ability to load and use this copy of the program. It ensures that the copy you are using is a legal copy. (2)

4.5   4.5.1   *EULA*: End User Licence Agreement. (2)

          4.5.2   This is a contract between the user and the author of the software laying out the legal usage of the software. (2)

4.6   4.6.1   A default folder is the standard location on the hard drive to be used to install the program.   (1)

          4.6.2   The primary (or boot) hard disk drive (1)

4.7   4.7.1   There is insufficient primary memory (OR RAM) to run the program. (1)

          4.7.2   Install more RAM into the computer. (1)

          OR

          4.7.1   There is insufficient space on the hard disk drive to install the program. (1)

          4.7.2   Delete some unwanted files on the HDD to free up more space. (1)

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QUESTION 5

5.1   5.1.1   (a)   ADSL is a cabled connection using the telephone network.

                 (b)   3G is a wireless connection using the cellphone network.   (2)

        5.1.2   (a)   *ANY TWO*: You need a network interface card in the computer, a modem and an ADSL telephone line.

                 (b)   *ANY TWO*: You need a network interface card in the computer; a wireless modem and a 3G cellphone data connection.   (4)

5.2   5.2.1   ADSL – *Any ONE valid Advantage*:
- Cheaper cost than 3G for same amounts of data transfer.
- More difficult to hack into as you will need physical access to the cables.   (1)

        5.2.2   Wireless 3G – *Any ONE valid Advantage*:
- No cables needed
- Have greater access to the Internet wherever there is cellphone service   (1)

5.3   5.3.1   Internet Service Provider   (1)

        5.3.2   *Any ONE of the following*:
- E-mail Account/s
- Free Web Space on the ISPs computer
- Technical Help and troubleshooting   (1)

5.4   5.4.1   *capped* – the data transfer is limited to a set amount each month, if you go over this limit then your account will no longer have Internet access for the rest of the month OR you will not have access to international sites OR you will have to pay a top up fee.   (1)

        5.4.2   *uncapped* – there is no data transfer limit, you only pay a single rental amount each month.   (1)

        5.4.3   *shaped* – data transfer is controlled by the ISP. Namely, certain operations of your account are given priority over others. For example, e-mail is completed first before any file downloads OR certain protocols are given preference.   (1)

        5.4.4   *unshaped* – data transfer is not controlled by the ISP and is operated on a first come first served basis OR all protocols are treated in the same way and no protocol is given priority.   (1)

5.5   5.5.1   *Bandwidth* – the amount of data that can be transferred from one point to another in a fixed amount of time.   (1)

        5.5.2   *kbps* – unit of data transfer speed in kilobits per second.   (1)

5.6   5.6.1   Malicious software
OR unwanted software that can damage your computer.   (2)

        5.6.2   Anti-virus programs
Firewalls   (2)

[20]

QUESTION 6

6.1   6.1.1   Bad spelling OR grammatical errors.
The hyperlink does not go to the bank's website. It is not the Bank's URL.   (2)

        6.1.2   phishing e-mail   (1)

        6.1.3   A bogus website that is identical to the genuine banking website will probably open. Captain Kirk will then type in his secret LogIn name and password and will then be told that the problem has been sorted out. Actually the LogIn name and password has been recorded by the bogus sites author and will be used to steal money from Captain Kirk's actual bank account.   (4)

        6.1.4   No. Because this relies on the lack of knowledge of the person and is not malware.   (2)

6.2   6.2.1   No. He is not the original author of the videos and has not obtained permission to use them. Therefore he cannot resell them.   (3)

        6.2.2   No. Although Dr McCoy is the author of the introduction video, he still doesn't own the original videos OR he is infringing the copyright of the original videos and has not obtained permission to use them. So he cannot resell them.   (3)

6.3   *Any One valid program:*
- Nero (Essentials)
- DVD Cloner
- MS Media Player
- Real Player
- InfraRecorder
- Roxio
- Toast Titanium (Macintosh Computers)
- ImgBurn   (1)

6.4   burning   (1)

6.5   Mr Scott should use Copy and format files so that they can be used on a dedicated CD/DVD player. This is because when the disks are sold, the purchaser will not necessarily want to play the disk only on their computer but may wish to view them through a home entertainment system, which may not be able to read a disk that has been formatted as data CD/DVD. He cannot use the Copy the entire CD/DVD as he does not have a single image of the files to be copied.   (4)

6.6   Mr Scott should take them to a recycling plant for the disks to be melted down and the materials separated and reused.   (1)

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QUESTION 7

7.1   7.1.1 *Any TWO valid faults*
- Not enough hard disk space.
- Left over programs and bad files
- Data corruption
- Missing Windows updates/Outdated drivers
- Corrupt operating system
- Bad hardware
- The files/registry on the hard disk drive are too defragmented. (2)

        7.1.2 *Their corresponding solutions:* (They must match the faults provided in Question 7.1.1.)
- Verify that there is at least 200 – 500MB of free hard disk drive space. This available space allows the computer to have room for the swap file to increase in size as well as room for temporary files.
- Remove or disable any TSRs and startup programs that automatically start each time the computer boots.
- Close down and reload any running programs and their corresponding data files.
- Make sure you've got the latest drivers for your computer. Especially the latest video drivers. Having out-of-date drivers can cause an assortment of issues.
- Reboot the computer and if that does not solve the problem, then repair or reload your operating system.
- It is possible that your computer is experiencing a more serious hardware related issue such as a failing component. This could be a failing or bad hard drive, CPU, RAM, motherboard or other component and each component needs to be individually checked and if needed replaced.
- Use a utility program like defrag to defragment the files on the hard disk drive OR use a registry cleaning utility program. (2)

7.2   7.2.1 *Any TWO valid faults*
- Your computer is overheating.
- It's possible for your computer to be infected with a virus that is designed to shut down your computer or turn it off. If your computer seems to be turning off when executing a certain program at specific times in the day, it could be infected.
- Bad Hardware. Any failing hardware component in your computer could cause your computer to unexpectedly turn off without warning, including a PSU failure. (2)

7.2.2 *Their corresponding solutions:* (They must match the faults provided in Question 7.2.1.)
- Dust, dirt, and hair can constrict a proper air flow on your computer, which can also cause a computer to overheat. Make sure your computer case is clean and fans are not obstructed. Remove dust from the motherboard.
- Run your system repair disk which will enable you to access your computer system. Then, if possible, run your anti-virus program and try to eliminate the virus. Otherwise reformat the hard drive and reload your operating system.
- This could be a failing or bad hard drive, CPU, RAM, motherboard or other component and each component needs to be individually checked and if needed replaced. (2)

7.3 7.3.1 Yes. the time used to play games takes time away from the business.
OR
No. It gives Mr Sulu a break in his work concentration making him more refreshed when he returns to work. (2)

7.3.2 *Any TWO valid problems*
- Carpal Tunnel Syndrome
- RSI (Repetitive Strain Injury)
- Eye Strain
- Back Strain (2)

7.3.3 *Any TWO valid solutions* (Must match the problems chosen in Question 7.3.2)
- Regularly release the joystick and flex and stretch the joints in the hand.
- Rotate and flex the wrist regularly.
- Look up from the screen and focus your eyes on a distant point every ½ hour.
- Sit in an ergonomically designed chair that supports the lower back. Stand up and stretch your back every hour. (2)

7.4 7.4.1 AUP (Acceptable Use Policy) (1)

7.4.2 *Any TWO valid points*
- No games are to be played on office computers.
- No personal e-mails are to be sent.
- No social networking is allowed. This includes:
  - Facebook
  - Twitter
  - Any chat rooms
  - Any personal sites
- No file downloads allowed that are not work related.
- No accessing of pornography of any form whatsoever. (2)

7.5   7.5.1   *Any TWO valid points*

- The Internet connection (telephone line or cellphone) is faulty or disconnected (down).
- The ISP connection is disconnected (down).
- The website is disconnected or down for maintenance.
- An incorrect password or log in name has been entered.
- The TCP/IP settings are incorrect.
- The modem is faulty. (2)

       7.5.2   Yes

Any One valid point

- The computer is a work computer and should not be used for personal access.
- The time taken by Scott for personal use, is wasted work time.
- Alcohol and alcoholic beverages are not work related topics. (2)

[21]

QUESTION 8

8.1 A primary key is a unique identifier of a particular record in a table. It is used to correctly manipulate the data in the table. (2)

8.2 The table should have any two of the following fields with the correct data type chosen. Any other valid field and data type can be accepted. (1 mark for each field, 1 mark for each data type and 1 mark for the primary key, marked with an *)

Examples of fields are:

Field Name	Data Type
Client ID	Text
First Name	Text
Surname	Text
Telephone Number	Text
E-mail Address	Text
Symptoms	Text
Disease Name	Text
Length of Illness	Number
Fatal?	Yes/No
Medication Prescribed	Text

Examples of a Primary Key are: (marked with an *) (Only acceptable if they have included this in the field design)

- E-mail Address
- Client ID (5)

8.3 8.3.1 Creating (making) a relationship between the tables. (1)

8.3.2 Table 1 is the client's table. Table 2 is the medical information table. The chosen Primary Key (called the Foreign Key) of the medical information table must be copied into the client's table. Then a relationship must be created between the two tables, using the common field. (2)

8.4 8.4.1 A designed structure of how data must be entered into a field.
Any One valid example Input Mask for Telephone Number (000) 000-0000 (2)

8.4.2 A check that entered data satisfies a particular value for a field.
Any One valid example Validation Rule for Length of Illness > 0 (2)

8.4.3 Allows you to review, add, change, or delete data from the database. (1)

8.5 = Count (*) OR = Count([field]) where field is a suitable field name from the table. (2)
[17]

120 marks

Total: 150 marks