Introduction to the World of Computers

NQF

Subject Examiner's Report

Unit Title: **Introduction to the World of Computers**

Unit Code: **IWC**

Session: June 2016

Question wording
When someone is looking to buy a new personal computer (PC), they will often try to compare what different shops have to offer in order to get best value for their money. To do so they need to understand PC specifications.
Describe the key components of a modern desktop PC. For each component, explain its importance to the effective functioning of the PC and give a typical value for that component. (16 marks)

Learning Outcome 1

1. Comments on learners' performance

Most candidates were able to identify RAM, CPU and hard disk drive as well as the purpose of each and many answers did give suitable values for each. Some answers assumed that the values were financial and so lost marks. Other papers made reference to keyboard and mouse, which was not thought to be worthy of credit. The highest mark 13/16 was achieved by 3 candidates.

2. Mark scheme

Instructions to markers

1 mark for each suitable element listed + up to 2 marks for each suitable corresponding description - 1 mark per element of the description. Maximum 12 marks
1 mark for each suitable value, including the unit of measurement

Refer to the table below for examples

Suggested answer

Feature	Description	Typical value
Memory	The Random Access Memory (RAM) is the working memory of a computer and is a key factor that controls how quickly the computer can perform tasks. A PC's RAM is measured in gigabytes (GB) and up to a point 'the bigger the better'.	4GB or more
Processor speed	The Central Processing Unit (CPU) or more commonly called processor is the equivalent of the brain of the computer. A processor's speed is measured in gigahertz (GHz) and 'the faster the better'.	2GHz or more
Processor cores	More modern processors have multiple processor cores which make them act like multiple CPUs and enables the PC to more effectively handle multiple tasks at the same time. The more cores a processor has the faster it should perform.	Quad core or more
Hard disk drive size	The hard disk of a computer is where the operating system, program files and user generated content are usually stored. Modern PC hard drive storage space is measured in terabytes (TB)	1TB or more
Optical drive	A modern desktop PC is likely to have a Digital Versatile Disk (DVD) drive which enables the PC to access content on DVDs, CDs such as films, computer games and music. It also enables the user to 'burn' data to DVDs or CDs as a means of storage, file distribution or backup.	1 or more DVD drives
Monitor	A PC is usually connected to some kind of monitor in order to display what the PC is doing. Light Emitting Diode (LED) is the most common screen type and one of the key features of a monitor is the screen size which is measured in inches across the diagonal.	21" or more

3. Recommendations

Candidates need to be able to explain what the key components of a personal computer (PC) are and the purpose of each component. They also need to know the attributes of each component, how they are measured and what a suitable value would be for each component in a modern PC e.g. Random Access Memory (RAM) is the working memory of a computer and is measured in Gigabytes (GB) and a current typical value is 8GB.

Examiner's tips

Keep abreast of the latest developments in computer hardware.

Question 2

Question wording
(a) E-mail client software can be installed on a computer or e-mails can be accessed via a web browser. Give one example of each method of accessing e-mails. Include in you answer the name of the organisation responsible for developing the software.   (4 marks)
(b) Describe in detail the steps needed to create and send a new business e-mail message containing a word processed business report.   (8 marks)

Learning Outcome 9

1. Comments on learners' performance

This was the best answered question on the paper and most candidates achieved at least half of the available marks.

2. Mark scheme

(a) Instructions to markers
1 mark for a suitable installed e-mail application and 1 mark for the corresponding developer e.g. Outlook - Microsoft, Thunderbird - Mozilla
1 mark for a suitable web based e-mail application and 1 mark for the corresponding developer e.g. Gmail - Google, Yahoo mail - Yahoo
Please note do not give credit for stating essentially the same software in both cases e.g. Outlook and Outlook web mail.
Maximum 4 marks

Suggested answer
Microsoft Outlook is an e-mail client widely installed on personal computers and is developed by Microsoft. Gmail is a widely used web based e-mail client and is developed by Google.

(b) 1 mark per reasonable step up to a maximum of 8 marks. Refer to suggested answer for example steps.
Please note for full marks the answer must include the following steps - new message creation, file attachment and send command

Suggested answer
1. Load the e-mail software e.g. double click the appropriate application icon
2. Next login/authenticate e.g. by inputting the appropriate username and password combination
3. Click the **Compose** button
4. Input the e-mail addresses of the recipients in the To, CC and BCC fields as required and ensuring that all addresses are correctly input
5. Type the message subject e.g. Business Report
6. Type a suitable salutation in the message body e.g. Dear Colleagues
7. Type an appropriate message, ensuring that it uses appropriate language and contains no errors
8. Add an appropriate closing e.g. Kind regards and the name of the sender
9. Click the **Attach files** button
10. **Browse** to find the business report file and double click it
11. Check that the file has been correctly attached
12. Spell check proof read the message
13. Click the **Send** button

3. Recommendations

Candidates need to make sure they give sufficient detail in their answers to achieve full credit, use the number of marks as a guide to how detailed the answer needs to be. In part (b) of this question 8 marks were available so 8 steps needed to be covered to achieve full credit.

Examiner's tips

Ensure that you can give examples of both web based and installed e-mail clients as well as the name of the organisation responsible for developing them.

Question 3

Question wording
Describe the typical Local Area Network (LAN) components and explain the purpose of each component.   12 marks

Learning Outcome 10

1. Comments on learners' performance

The average mark for this question was 3/12 with half of the candidates achieving no credit at all.

2. Mark scheme

Instructions to markers
1 mark per suitable example and 1 mark for a corresponding description up to a maximum of 12 marks in total. For examples see suggested answer table

Suggested answer

Component	Purpose
Server/s	To provide network services such as file storage and shared printing
Clients containing Network Interface cards [NIC]	These are the users' computers on the network e.g. PCs
Cabling	Cabling is required to connect all of the components of the wired network together
Router	Provides a connection from the network to the Internet
Wireless Access Point	To connect wireless devices such as laptops, tablets and smartphones
Switch	Used to connect wired devices to the network
Printer/s	To provide printing facilities to the users of the network

3. Recommendations

Candidates need to learn the fundamental components of computer networks as well as the purpose of each and how they fit into different network topologies.

> **Examiner's tips**
>
> Learn what different types of network are and what each is implemented for.

Question wording
(i) State what the letters in the computer term GUI mean.   (2 marks)
(ii) Describe the typical features of a GUI and the purpose of each feature.   (10 marks)

Learning Outcome 4

1. Comments on learners' performance

All candidates scored at least one mark and on average 43% of the credit was achieved for this question. As with other questions marks were lost due to lack of detail, particularly in (ii).

2. Mark scheme

Instructions to markers
2 marks for the correct answer Graphical User Interface, 1 mark for 2 correct words
1 mark a suitable overview or an example e.g.
Visual interface between an electronic device and a user
1 mark for a suitable example of a GUI e.g. Windows, Mac, Android, iOS, Linux etc.
1 mark per element of a suitable feature of a GUI and 1 mark for a suitable corresponding description up to 8 marks e.g.
window - a rectangular visual representation of part of a GUI that can be used to access files or programs and for displaying what is happening in a program
icon - a pictorial representation of a program or feature and usually used to access the program or feature
menu - a way to select a command - clicking/touching a text or icon button that then displays a menu of options and the desired option can be clicked/touched to select it
toolbar - horizontal bar composed of pictorial and text buttons within a GUI software application used to give a command e.g. Save

Suggested answer
A Graphical User Interface (GUI) is a visual interface between a computer (or other electronic device such as a smartphone or a tablet) and a user, for example Microsoft Windows. GUIs are composed of features such as Windows, icons, menus, toolbars and buttons that the user interacts with via some kind of pointing device such as a mouse, or by using a touch screen. GUIs were created to enable computers to be easier for novice users to be able to interact with because they incorporated elements that have a similarity to real world items e.g. Desktop and Recycle Bin. GUIs started to become widely popular with the introduction of computer systems such as the Apple Macintosh and later the Microsoft Windows operating system.
A window is a rectangular visual representation of part of a GUI that can be used to access files or programs and for displaying what is happening in a program.
An icon is a pictorial representation of a program or feature and usually used to access the program or feature e.g. in Windows by double clicking it.
A menu is a way to select a command within the GUI by clicking/touching a text or icon button displays a menu of options and the desired option can be clicked/touched to select it
A toolbar is a horizontal bar composed of pictorial and text buttons within a GUI software application used to give a commands e.g. Save

3. Recommendations

Candidates need to learn the key components of a graphical user interface (GUI) and what each represents.

> ### Examiner's tips
>
> Candidates need to be familiar with different types of GUI and keep abreast with changes in technology, particularly in relation to mobile devices such as phones and tablets.

Question 5

Question wording
(a) Explain why it is essential for any business to back up its data.   (3 marks)
(b) Explain what the terms 'full back-up' and 'incremental back-up' mean and state how they differ from each other. Include in your answer the advantages and disadvantages of each method of back-up.   (9 marks)

Learning Outcome 5

1. Comments on learners' performance

The average mark for this question is 3.5/12 and although all candidates scored at least 1 mark only 20% of them achieved over half marks. There seemed to be little understanding of what an incremental backup is.

2. Mark scheme

(a) 1 mark per suitable point up to a maximum of 3 marks e.g.
In the case of data corruption, loss or malicious damage
The business can restore their data
And continue functioning

Suggested answer
Data is prone to corruption, loss or malicious damage as a result of system failure, natural disasters, accidents, fire, flood and physical or cyber-attacks. Through an appropriate backup regime the business can restore its data and continue functioning after an event such as those listed.

(b) Instructions to markers
1 mark for each suitable point up to a maximum of 9 marks e.g. like those in the table below

Backup type	Description	Advantages	Disadvantages
Full	All files and folders backed up	Only 1 backup set Quicker to restore	Slower Uses more storage space
Incremental	Only new and changed files/folders (since the last backup) backed up	Faster than full backup Occupies less storage space	Need all incremental backups to perform a restore Slower to restore

Suggested answer
As its name suggests a full backup makes a copy of all the files and folders of the device being backed up whereas an incremental backup only backs up new files and the files that have been changed since the last backup. Full backups have the advantage that if the files need to be restored there is only 1 set of backup files and so the process is quicker. However because all files are backed up it takes longer and uses more storage space. Incremental backups are faster and occupy less storage space but when doing a restore all the incremental backups are required and are applied in sequence which is a slower process than restoring a full backup.

3. Recommendations

Candidates need to learn what an incremental backup is as well as the advantages and disadvantages of its use.

Examiner's tips

Learn all of the syllabus content as well as examples for each learning outcome.

Question 6

Question wording
(a) State what the letters in the term URL stand for and describe what a URL is. Ensure that your answer explains the component parts of a URL, through the use of a suitable example.   (8 marks)
(b) Describe the component parts of an e-mail address, supporting your answer with a suitable example.   (4 marks)

Learning Outcome 6

1. Comments on learners' performance

31% of the marks were achieved on average and only 3 of the 10 candidates achieved at least half of the marks. Many answers lacked detail and consequently lost credit.

2. Mark scheme

Instructions to markers
2 marks for Uniform/Universal Resource Locator, 1 mark for 2 correct words
1 mark for an example of a URL e.g. http://www.abeuk.com/qualifications.php

1 mark for each suitable point describing a URL up to a maximum of 5 marks e.g.
A URL is the unique address of a resource on a computer network, such as the internet
HTTP specifies the protocol used to transfer data - HyperText Transfer Protocol
www specifies that it is a World Wide Web resource
abeuk.com is the domain
qualifications.php is the name of the specific page on the site

Suggested answer
A Uniform Resource Locator (URL) is the unique address of a resource on a computer network, such as the internet, e.g. http://www.abeuk.com/qualifications.php. URLs have a given structure. HTTP specifies the protocol used to transfer data - HyperText Transfer Protocol. www specifies that it is a World Wide Web resource, abeuk.com is the domain and qualifications.php is the name of the specific page on the site of the domain.

(b)   1 mark for a suitable example e.g. info@abeuk.com
1 mark for suitable points up to a maximum of 3 marks e.g.
info - is the local part that specifies the mailbox within the organisation
@ - the 'at' symbol is the separator between the local part of e-mail address and the domain
abeuk.com - is the domain of the e-mail address
e-mail addresses cannot contain spaces or certain special characters (() , : ; <>@ [\ ]) unless enclosed in quotation marks ("")

Suggested answer
An e-mail address e.g. info@abeuk.com is composed of three parts - first the local part (info) then the @ symbol and then the domain (abeuk.com) they are not permitted to contain spaces or certain special characters unless enclosed in quotation marks "".

3. Recommendations

Learn the structural elements of a Uniform Resource Locator (URL) as well as an e-mail address in order to be able to describe them in an exam question answer.

> **Examiner's tips**
>
> Attempt past examination papers under test conditions and then use the mark schemes to identify how to achieve more marks in the real exam.

Question 7

Question wording
Every business should prepare a continuity plan for circumstances that prevent it from operating normally e.g. because the business premises are destroyed. Describe the key elements of such a continuity plan.   (12 marks)

Learning Outcome 11

1. Comments on learners' performance

This was the worst answered question on the paper and only 2 candidates achieved any credit at all with the maximum mark 3/12.

2. Mark scheme

Instructions to markers
1 mark for each suitable element of a continuity plan + 1 mark for further detail up to a maximum of 12 marks. See suggested answer for examples

Suggested answer
A business continuity plan must include the following:
Identification of the risks which the organisation might face e.g. earthquake, fire, flood
Identification of the cost to the business e.g. how much is lost per missed day of trading
Implementing measures to minimise the impact of individual risks e.g. fire protection systems
Creating a plan to recover from identified risks e.g. by changing business location
Informing key personnel involved in recovering from a disaster what they would need to do
Testing the contingency measures to ensure that they would work in a real disaster
Regularly repeating the above cycle of steps to take account of business changes and to maximise the chances of the recovery plan working

3. Recommendations

Learn the key features and purpose of a business continuity plan as detailed in the lecture guide.

Examiner's tips

Read around the subject to more fully understand it and be able to give examples to illustrate your answers.

Question 8

Question wording
(a) Microsoft Office is a suite of software applications used by many businesses. Give two other examples of office suites and the name of the organisation responsible for developing each.
(4 marks)
(b) State four types of application that make up a professional office suite and, for each type of application, give an example of the type of document it can be used to create. (8 marks)

Learning Outcome 8

1. Comments on learners' performance

This was the second highest scoring question with an average mark of 53% but 2 learners achieved no credit.

2. Mark scheme

Instructions to markers
1 mark for the name of another office suite and 1 mark for the corresponding developer maximum 4 marks e.g. OpenOffice (Apache), WordPerfect Office (Corel), iWork (Apple), Google Drive (Google)

Suggested answer
One of the most popular alternatives to the Microsoft Office suite is the open source application suite OpenOffice by Apache. This may be because it is compatible with Microsoft Office, is a free download and can be used on different operating systems. Another popular office suite is the Google Drive offering provided by Google and allowing the editing, sharing and storage of documents in 'the cloud' via any web enabled device.

(b) 1 mark for a suitable application type or named application and 1 mark for one or more corresponding document types up to a maximum of 8 marks. See table below for suggested examples.

Suggested answer

Office application type	Examples of documents produced by this application
Word processor	Letters, reports, forms, CVs, meeting agendas, meeting minutes
Spreadsheet	Budgets, simple accounts, claim forms
Presentation software	Informational and training presentations, interactive quizzes
Database	Company databases e.g. customer, sales, stock, products
E-mail management	E-mail messages, meeting bookings, contacts

3. Recommendations

Learn the details of alternative office suites to Microsoft Office and which organisation provides each.

> **Examiner's tips**
>
> Learn the key programs in office suites and what type of document each program is typically used to create.