Mark Scheme (Results)

June 2014

NQF BTEC Level 1/Level 2 Firsts in
Information and Creative Technology

Unit 1: The Online World
(20560_E03)

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.

- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.

- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.

- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.

- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.

- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.

- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.

- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question Number	Answer	Mark
1	Real-time information	1

Question Number	Answer	Mark
2	SMTP POP3	2

Question Number	Answer	Mark
3(a)	Award **one** mark for any of the following: • participate in online discussion with class members • download/access any course notes/resources that he may need to help him do the work • can ask/email the teacher questions via the VLE. **Accept any other valid response.**	1

Question Number	Answer	Mark
3(b)	Award **one** mark for any of the following: • if the VLE is not working the teacher cannot access the work • teachers need to be online/need internet connection to access the work and to mark it **Accept any other valid response.**	1

Question Number	Answer	Mark
4(a)	Internet Browser	1

Question Number	Answer	Mark
4(b)	Hosts HTML documents and files	1

Question Number	Answer	Mark
5	Header Trailer	2

Question Number	Answer	Mark
6	Other players are available at any time They allow players to communicate with each other	2

Question Number	Answer	Mark
7(a)	Award **one** mark for any of the following up to a maximum of **two** marks. • She can tag herself in certain locations for her family/friends to see where she is. • She can share photos/send files/images • Send messages to her friends/ family all at once. • A cheap option as Suni can use existing wireless networks/connect to wifi (on a range of devices). • Can access via internet cafes. • Can use mobile phone to connect to a hotspot. • Can use the chat feature/real-time chat **Do not accept** Benefits to family or friends Quicker (than post) Talk to friends/family **Accept any other valid response.**	2

Question Number	Answer	Mark
7(b)	Award **one** mark for any of the following up to a maximum of **two** marks. • Ensure that the correct security/privacy settings are in place. • Report any inappropriate content/contact. • Should not arrange to meet anyone met online she does not know without adult supervision. • Should not publish her personal or contact details. • Make sure that only her friends can see her images. Only accept 'privacy' for one mark in total.	2

| | **Accept any other valid response.** | |

Question Number	Answer	Mark
8	Presence check	1

Question Number	Answer	Mark
9	Award **one** mark for identification and **one** additional mark for appropriate expansion. Higher bandwidth and faster downloads (1) so that movies can be watched without interruption/less buffering (1). Multi-user access/family can all access internet at once (1) without losing speed(1). **Do not accept** Faster/quicker on its own (must include upload/download/bandwidth or comparison to normal broadband) **Accept any other valid response.**	2

Question Number	Answer	Mark
10	Messages are sent and received in real-time Users can include web links	2

Question Number	Answer	Mark
11	Use a firewall and anti-virus software Only use https web pages for online transactions	2

Question Number	Answer	Mark
12	Award **one** mark for identification and **one** additional mark for appropriate expansion up to a maximum of **four** marks. Emails are stored on a central server (1) so that users don't have to monitor email on a particular device/users can access remotely/on any internet connection (1). Fast download/upload speeds (1) so that large files can be sent over a slow connection	4

(1).

Through the use of flags defined in the IMAP
protocol, clients can keep track of whether or
not the message has been read, replied to, or
deleted (1) which is useful especially if you
receive a significant number of emails (1).

Clients can create, rename, and/or delete
mailboxes/folders on the server (1) which
allows users to have access/share/subdivide
folders (1).

IMAP provides a mechanism for a client to
ask the server to search for messages
meeting a variety of criteria (1) which allows
users to select specific emails without
needing to perform manual searches (1).

When using IMAP, clients often stay
connected as long as the user interface is
active and download message content on
demand (1) which can result in faster
response times/so for users with many or
large messages, this IMAP usage pattern can
result in faster response times (1).

Accept any other valid response.

Question Number	Answer	Mark
13	Symmetric encryption Asymmetric encryption	2

Question Number	Answer	Mark
14	Award **one** mark for identification and **one** additional mark for appropriate expansion up to a maximum of **four** marks. Ample storage space for a low cost monthly fee or no cost (1) so that the users do not have to purchase additional physical media/digital hardware (1). More secure (1) as data is encrypted both during transmission and while at rest, ensuring no unauthorised users can access the files (1). Automated backup (1) so that you can select what you want to back up so it is not left to human intervention/error (1). Can access storage facility from anywhere with internet connection such as on tablets (1) so that users are not tied to the office/home to access data (1). Synchronisation ensures automatic backup across all devices (1) so that users only need to back up once rather than on all devices which is time consuming/can be forgotten (1). Cloud storage serves as an added layer of data protection (1) where backups are kept in a secure location that is physically removed from the originals (1). **Accept any other valid response.** **Do not accept** Advantages of backup – must be specific to online storage. Secure/safe (needs to state 'more' secure)	
		4

Question Number	Answer	Mark
15	Award **one** mark for identification and **one** additional mark for appropriate expansion up to a maximum of **four** marks. Delay in transmission caused by the addressing and storage time (1) which, as businesses rely on emails more and more, can cause issues when dealing with more urgent matters (1). Once the message has been delivered it is deleted (1) therefore there is no backup of the message (held on the server) (1). Abuse of service by spam senders (1) because sending through a store-and-forward host can reduce the effectiveness of many anti-spam checks that are done (1). **Accept any other valid response.**	4

Question Number	Answer	Mark
16(a)	Award **one** mark for identification and **one** additional mark for appropriate expansion. The software uses a (dictionary based) algorithm (1) to shrink the files by cataloguing the data into numbered lists (1) The compression software searches for patterns (to include in a dictionary) (1) so that repeated words/redundant data/spaces can be removed (1) **Award one mark for the identification of 'zipping' files or for identifying the use of compression software.** **Accept any other valid response.**	2

Question Number	Answer	Mark
16(b)	Award **one** mark for identification and **one** additional mark for appropriate expansion. Images can be compressed using lossy compression (1) where differences in shades of colour are rewritten by the program to be the same shade therefore the numbers of colours are reduced making the file smaller (1). **Award one mark for identification of compressed image file types, e.g. png, jpg, jpeg, gif, tiff etc.** **Accept any other valid response.**	2

Question Number	Answer	Mark
17	Award **one** mark for identification and **one** additional mark for appropriate expansion. Examining files to look for known viruses using a virus dictionary/database (1) so that it can compare files on the computer against known virus code (1). It monitors all programs to identify suspicious behaviour (1) eg if a programme tries to write data to an executable program it is flagged as dangerous (1). If it finds a suspicious program it will quarantine it (1) so that a user can identify whether it is a genuine threat (1). **Accept any other valid response.**	2

Question Number	Answer	Mark
18	**Indicative content:** **Improved data monitoring** which allows teachers to view/track learner progress/attendance and identify additional support/areas of concern. Pupils' personal data e.g. health records, emergency contacts. **Improved data sharing** where teachers and other staff such as the exams officer have better access to more and better managed data. Teachers can respond quickly to changes. **Improved data security** – a DBMS provides a framework to better enforce data privacy and security policies. There will be many teachers and other staff accessing the data so this is essential. **Better data integration** – wider access to well managed data provides a clearer picture. Easier to see how actions in one area affect other areas. **Improved data consistency** – where different versions of the same data appear in different places, the possibility of errors is greater. DBMS reduces this. Teachers are often updating information so this is useful to ensure the data is always correct. **Improved data access** – possible to produce quick responses to queries providing the data is stored. **Improved decision making** – better managed data and improved access make it possible to generate better quality information, on which better decisions are made. Very useful when term reports have to be produced for parents as they can easily find the information they need. **Increased end user productivity** – the availability of data, combined with the tools that transform data into usable information, allows end users to make quick informed decisions which could help teachers make decisions on extra support for students etc. **Increased costs/time issues** – sophisticated software and skilled personnel. Maintenance costs can be high – software, hardware, technicians. Training costs/time for teachers that are not IT literate. Teachers	8

need to find the time to access/update records.

Maintaining a current system – frequent updates, apply latest patches and security measures to all components which could lead to 'downtime' where teachers are unable to access the system.

Reference may be made to SIMs (School Information Management System) as examples.

Accept any valid response.

Level	Descriptor
0 0 marks	No rewardable material.
1 1-3 marks	A few key points identified, **or** one point described in some detail. The answer is likely to be in the form of a list. Points made will be superficial/generic and not applied/directly linked to the situation in the question.
2 4-6 marks	Some points identified, **or** a few key points described. The answer is unbalanced. Most points made will be relevant to the situation in the question, but the link will not always be clear.
3 7-8 marks	Range of points described, **or** a few key points explained in depth. The majority of points made will be relevant and there will be a clear link to the situation in the question.

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