

Cambridge TECHNICALS LEVEL 3



IT

Feedback on the June 2018 exam paper
(including selected exemplar candidate answers
and commentary)

Unit 1 – Fundamentals of IT

Version 1



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INTRODUCTION

This resource brings together the questions from the June 2018 examined unit (Unit 1), the marking guidance, the examiners comments and the exemplar answers into one place for easy reference.

We have also included exemplar candidate answers with commentary for Questions 17(d), 20(a), (b), (c), (d), (e), (f) and (g).

The marking guidance and the examiner's comments are taken from the Report to Centre for this question paper.

The Question Paper, Mark Scheme and the Report to Centre are available from:

<https://interchange.ocr.org.uk/Modules/PastPapers/Pages/PastPapers.aspx?menuindex=97&menuid=250>

OCR
Oxford Cambridge and RSA

Level 3 Cambridge Technical in IT
05838/05839/05840/05841/05842/05877

Unit 1: Fundamentals of IT
Monday 14 May 2018 – Morning
Time allowed: 1 hour 30 minutes

You must have:
• a calculator

First Name: Last Name:

Centre Number: Candidate Number:

Date of Birth:

INSTRUCTIONS

- Use black ink. You may use an HB pencil for graphs and diagrams.
- Complete the boxes above with your name, centre number, candidate number and date of birth.
- Answer all the questions.
- Write your answer to each question in the space provided.
- Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).

INFORMATION

- The total mark for this paper is 80.
- The marks for each question are shown in brackets [].
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- This document consists of 16 pages.

FOR EXAMINER USE ONLY	
Question No	Mark
Section A: 1-15	/15
Section B: 16	/4
17	/20
18	/7
19	/7
20	/21
Total	/80

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**Cambridge Technicals
IT**

Unit 1: Fundamentals of IT
Level 3 Cambridge Technical in IT

Mark Scheme for June 2018

Oxford Cambridge and RSA Examinations

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**Cambridge Technicals Level 3
Information Technology**

05838-05842 & 05877

Unit 1 Fundamentals of Information Technology

OCR Report to Centres June 2018

Oxford Cambridge and RSA Examinations

GENERAL EXAMINER COMMENTS ON THE PAPER

It was pleasing to see an increase in subject knowledge for some candidates. However, it was also noted that some candidates still appeared to have little more than general knowledge, rather than a depth of understanding in relation to the unit content. Centres should ensure that candidates have a sound understanding of all the unit content before being entered for the external examination.

For section A, the multiple choice questions, most candidates attempted each question. A small number of candidates did not provide an answer for each question. Candidates should be encouraged to attempt each question.

Section B of this unit features a brief context. The context should be used in answering the questions to allow full marks to be achieved. Candidates should be aware of the focus indicated in some of the questions, e.g. the 'connected' fitness equipment, and consider this when composing their responses.

A good proportion of candidates provided answers for all the questions in section B. Good examination technique suggests that the candidate constructs their answer in the format indicated in the question to gain full marks. Candidates need to be aware of the different command words, e.g. identify, describe, explain, discuss, and the type and depth of answer these require. It was noted that there was evidence of knowledge gaps from the candidates' responses to the more technical questions in Section B, particularly in Q20.

Some candidates appeared to have learnt the mark schemes from previous papers and wrote answers from these for questions that appeared similar. Whilst it is good practice to provide mock examinations for candidates, it is essential that candidates fully understand all topics in the specification and then apply their learning to the context in the questions asked. Trying to memorise answers from previous sessions is not the best practise.

When preparing candidates for this unit, centres should use a wide variety of resources. No single resource will contain all the necessary learning to allow candidates to access the highest grades for this unit. Resources endorsed by OCR contain an introduction to some topics included in the specification. Additional resources are available on the OCR website which includes a combined feedback with selected candidate responses and commentary from the January 2017 session.

Resources which might help address the examiner comments:

From the link below, you'll find 'The OCR guide to examinations' (along with many other skills guides)

<http://www.ocr.org.uk/i-want-to/skills-guides/>

Command verbs definitions

<http://www.ocr.org.uk/Images/273311-command-verbs-definitions.pdf>

Questions 1, 2 and 3

SECTION AAnswer **all** the questions.Put a tick (✓) in the box next to the **one** correct answer for each question.

1 Which of the following types of server would be used to run a virtual machine?

(a) Mail

(b) Web

(c) File/print

(d) Hypervisor

[1]

2 Which of the following is an example of storage virtualisation?

(a) Storing audio files on a mobile device.

(b) Storing server back-ups on a removable drive.

(c) Storing a word processed document on a laptop desktop.

(d) Storing a movie on a drive from multiple network storage devices.

[1]

3 Which of the following is a characteristic of a peer to peer network?

(a) Centralised data accounts.

(b) All data traffic flows through a central server.

(c) Resources can be shared without a dedicated server.

(d) Data flow through the network is controlled by a token allocated by the server.

[1]

Examiner comments

This section of the external examination consists of 15 multiple choice questions each with 4 options to choose one from.

Question 1 – Answer: D. A hypervisor server would be used to run a virtual machine.

Question 2 – Answer: D. An example of storage virtualisation is storing a movie on a drive from multiple network storage devices.

Question 3 – Answer: C. A characteristic of a peer to peer network is that resources can be shared without a dedicated server.

Questions 4 and 5

4 Fig. 1 shows a diagram of a computer network.

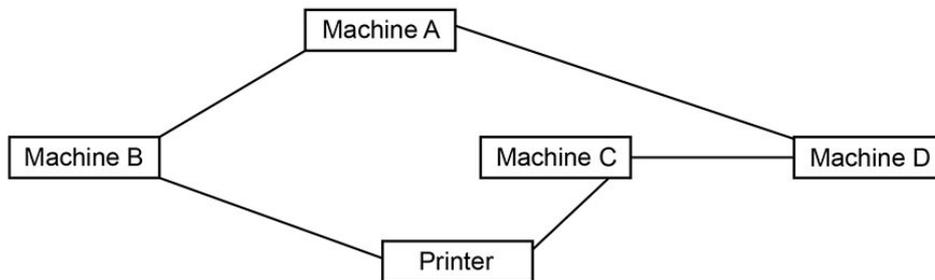


Fig. 1

Which network topology is represented in Fig. 1?

(a) Bus

(b) Star

(c) Ring

(d) Mesh

[1]

5 What is meant by the term 'Metropolitan Area Network' (MAN)?

(a) A network based in a school.

(b) A city-wide network of computers.

(c) A network spanning two countries.

(d) A network of hypervisor enabled machines.

[1]

Examiner comments

Question 4 – Answer: C. The diagram shows the Ring topology, with each device connected in a ring and no central device.

Question 5 – Answer: B. The term 'Metropolitan Area Network' (MAN) means a city-wide network of computers.

Questions 6, 7 and 8

6 Which of the following is an example of a WAN connectivity method?

(a) Data

(b) ISDN

(c) HTTP

(d) SATA

[1]

7 Which of the following is **not** a suitable use of a blog by a business?

(a) To launch a new product.

(b) To request feedback on a product.

(c) To share new developments with staff.

(d) To inform staff that they have been made redundant.

[1]

8 Which of the following is considered to be a personal attribute for a successful network manager?

(a) Being self-taught.

(b) Requiring supervision.

(c) Ability to work independently.

(d) Being a member of a professional body.

[1]

Examiner comments

Question 6 – Answer: B. ISDN is an example of a WAN connectivity method.

Question 7 – Answer: D. This question asks candidates to identify which of the answers is NOT a suitable use of a blog by a business. Blogs are informal communications used by businesses to pass on information to followers. As such they would not be suitable to inform staff that they have been made redundant.

Question 8 – Answer: C. A personal attribute required to be a successful network manager would be the ability to work independently.

Questions 9, 10 and 11

9 Why could two staff members of an organisation have different expected standards of dress code at work?

(a) The staff members job-share.

(b) The staff members are different ages.

(c) The staff members perform different job roles.

(d) Staff members are at different stages of their career.

[1]

10 Which of the following is **not** a purpose of a professional body?

(a) To share best practice.

(b) To organise industrial action.

(c) To act as a means of entry into the profession.

(d) To support the learning that underpins the professional body.

[1]

11 Which of the following is an example of staying safe online?

(a) Switching off the firewall.

(b) Regularly changing passwords.

(c) Providing personal details for public access.

(d) Updating anti-virus software on an annual basis.

[1]

Examiner comments

Question 9 – Answer: C. Dress codes at work can be based on the job roles staff members perform, which would mean that two members of staff who perform different job roles could have different expected standards of dress code.

Question 10 – Answer: B. This question asks candidates to identify which of the answers is NOT a purpose of a professional body. Professional bodies are set up to exchange expertise and knowledge, support the practitioners and set standards, which would mean that it is not a purpose of a professional body to organise industrial action.

Question 11 – Answer: B. An example of staying safe online is to regularly change passwords.

Questions 12, 13 and 14

12 Which of the following is **not** an example of disaster planning?

(a) Backing up the main server to the Cloud.

(b) Having two mirrored folders on separate servers.

(c) Keeping a back-up copy of an organisation's website.

(d) Using an external hard drive as the sole storage area.

[1]

13 Which of the following is an attempt to gain information by listening to communication traffic?

(a) Phishing

(b) Data theft

(c) Eavesdropping

(d) Social engineering

[1]

14 Which of the following is an example of digital security?

(a) Biometrics

(b) Electromagnetic wipe

(c) Permissions

(d) Tokens

[1]

Examiner comments

Question 12 – Answer: D. This question asks candidates to identify which of the answers is NOT an example of disaster planning. Disaster planning recommends that important files are backed up and stored at another secure location so using an external hard drive as the sole storage area is not an example of disaster planning.

Question 13 – Answer: C. Eavesdropping is listening to communication traffic over an unsecured network in an attempt to gain information.

Question 14 – Answer: C. An example of digital security is permissions.

Question 15

15 Which of the following describes why usernames **must** be used with a password for improved security?

(a) Usernames should combine numbers, letters and symbols.

(b) Usernames and passwords are changed every time you log on.

(c) Username and password combinations being guessed is a low risk.

(d) Usernames are not unique, so offer high security levels on their own.

[1]

Examiner comments

Answer: C. A description of why usernames must be used with a password to improve security is because the chance of the username and password combinations being guessed is a low risk.

Questions 16 and 17(a)

SECTION B

Answer **all** the questions.

AMEC Leisure runs leisure centres throughout the country providing a variety of facilities. It has a website where customers can register to use a fitness gym's facilities and create a personal profile to store training programs and track their progress. Customers can also link their social media accounts to their profile to share their training information with friends.

The leisure centres feature the latest fitness technology including 'connected' fitness equipment that automatically uploads workout information to the customer's personal profile.

AMEC Leisure's IT staff are responsible for the maintenance of the 'connected' fitness equipment as well as the company's computer systems.

16 Staff at AMEC Leisure must read and sign the company's Code of Conduct.

Explain **two** reasons why staff must agree to the AMEC Leisure Code of Conduct.

- 1... **Possible reasons why staff must agree to the AMEC Leisure Code of Conduct include:**
- • So staff can be clear (1) on what they can and can't be expected to do (1).
 - • So AMEC Leisure is able to discipline staff (1) who don't comply (with the code of conduct) (1).
 - • To set expectations (1) of the staff (1).
 - • To make it clear (1) of the company's expectations (1).
 - 2... • So staff are aware (1) of the benchmarks against which their performance (and that of the organisation) can be measured (1).
 - • So staff can use it as a central guide/point of reference (1) to support their day to day decision making (1).
 - • Any other valid suggestion.

[4]

17 When maintaining the 'connected' fitness equipment, IT staff use a set of Standard Operating Procedures (SOP).

(a)* Explain why IT staff use SOP to maintain the 'connected' fitness equipment.

[10]

Indicative content

Possible reasons why IT staff use SOP to maintain the 'corrected' fitness equipment include:

- • Set of rules to follow.
- • Each engineer could do things differently.
- • SOP ensures that different engineers do things the same.
- • Ensure consistency of maintenance.
- • Prevents errors due to misconfiguration.
- • Allows for maintenance to be undone easily.
- • Less chance of errors as everyone following SOP.
- • Any other valid suggestion.

Mark Scheme Guidance

Question 16:

Up to two marks for each of two explanations

Allow answers relating to:

- Security
- Legal implications.

Relevant examples can be used for the second mark.

Question 17(a):

Mark Band 3 (7-10 marks)

The learner has explained why IT staff would use SOP to maintain the 'connected' fitness equipment.

Subject specific terminology and knowledge will be clearly used to support and inform the explanations.

There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.

Mark Band 2 (4-6 marks)

The learner has described how IT staff could use SOP to maintain the 'connected' fitness equipment.

At the bottom of the mark band, the learner may describe a single way that SOP could be used.

There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence.

Mark Band 1 (1-3 marks)

The learner has identified generic points in relation to SOP.

Subject specific terminology may be limited or missing.

The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.

0 marks = Nothing worthy of credit.

Examiner comments

Candidates were provided with a brief context at the start of this section which allowed them to apply their knowledge and understanding to the questions by relating it to this context.

Question 16 – Candidates were asked to explain two reasons why staff must agree to the AMEC Leisure Code of Conduct. Many good responses were able to explain two valid reasons why the Code of Conduct was used. These sometimes contained a legal reason. Others needed to explain a second reason that was different from the first one.

Question 17(a) – This question was marked using a banded response mark scheme. Candidates were asked to explain why IT staff use Standard Operating Procedures (SOP) to maintain the 'connected' fitness equipment. Good responses were able to explain why SOP was used by IT staff to maintain the 'connected' fitness equipment giving several valid reasons. Others showed a clear gap in knowledge here and needed to develop reasons as to why SOP was used for the maintenance of IT equipment rather than in business generally. To get any marks for this question, candidates needed to show an understanding of what SOP was.

Questions 17(b), (c) and (d)

The 'connected' fitness equipment features a hexadecimal error display. The code on the display identifies the error with the 'connected' gym equipment.

When updating the equipment's user manual, the engineer mistakenly used a decimal value instead of hexadecimal.

(b) Convert the decimal number 244 to hexadecimal. You **must** show your workings.

One mark for each character (1+1):

- One mark for working out.
- F in first position (1)
- 4 in second position (1)
- Evidence of working out shows process of calculating the answer (even if answer incorrect) (1).

.....
.....
.....**[3]**

(c) Each piece of 'connected' fitness equipment has 128 mebibytes of storage.

Describe the difference between a mebibyte and a megabyte and explain why mebibytes are used.

- A mebibyte is 1024^2 bytes (1) and a megabyte is 1000^2 bytes (1). Mebibytes are used so the size of the storage is accurate (1).
- A mebibyte is larger than a megabyte/a megabyte is smaller than a mebibyte (2) Mebibytes are used so the size of the storage is accurate (1).
- Any other valid suggestion.

.....
.....
.....**[3]**

(d)* Discuss the use of wireless technologies for uploading data to and from the 'connected' fitness equipment. **[10]**

Indicative content

Discussion of the use of wireless technologies for uploading data to and from the 'connected' fitness equipment include:

- No wires needed.
- Trip hazard.
- Bluetooth/Wifi more suitable as don't need line of site.
- Bluetooth short range, better of use from body sensors.
- Wifi for connectivity to AMEC Leisure network.
- Wifi can be more easily intercepted, so security important.
- Could encrypt wireless traffic.
- Ease of interception to wireless traffic.

© OCR 201 Any other valid suggestion.

Mark Scheme Guidance**Question 17(b):****For three marks:**

Candidate may convert directly to decimal or may first convert to binary and then on to decimal.

Maximum two marks if no working out.

Do not award second mark if there is another character in between.

E.g. F04 = 1 mark.

Question 17(c):**For three marks:**

One mark for describing a mebibyte.

One mark for describing a megabyte.

One mark for the reason why mebibytes are used.

Question 17(d):**Mark Band 3 (7-10 marks)**

The learner has explained how wireless technologies can be used for uploading data to and from the 'connected' fitness equipment. Consideration will be given to the appropriateness of using wireless technologies within the context provided. Answer may discuss different wireless technologies or wired and wireless technologies.

Subject specific terminology and knowledge will be clearly used to support and inform the explanations.

There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.

Mark Band 2 (4-6 marks)

The learner has described how wireless technologies can be used for uploading data to and from the 'connected' fitness equipment. There may be limited consideration of different wireless technologies or wired connectivity.

At the bottom of the mark band, the learner may describe a single use of wireless technology.

There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence.

Mark Band 1 (1-3 marks)

The learner has identified generic points in relation to wireless technologies. There is little attempt to consider their use within the context provided.

Subject specific terminology may be limited or missing.

The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.

0 marks = Nothing worthy of credit.

Examiner comments

Question 17(b) – Candidates were asked to convert the decimal number 244 to hexadecimal and show their workings. Good responses were able to show their workings and provide an accurate hexadecimal conversion to achieve full marks. Most candidates that attempted the question achieved at least one mark for their workings. Other candidates provided no response for this question.

Question 17(c) – Candidates were asked to describe the difference between a mebibyte and a megabyte and explain why mebibytes are used. Some good responses showed an understanding of the difference between a megabyte and a mebibyte and a valid reason why a mebibyte was used. Others realised that it was a difference in size of storage but thought the mebibyte was smaller. Some candidates provided figures to describe the difference but these were sometimes incorrect. A lack of subject knowledge was evident here.

Question 17(d) – This question was marked using a banded response mark scheme. Candidates were asked to discuss the use of wireless technologies for uploading data to and from the ‘connected’ fitness equipment. Good responses included detailed discussions on either side of the argument. Others needed to develop balanced discussions to achieve high marks. Some candidates were able to describe a range of wireless connectivity methods. Many candidates were able to identify the trip hazard that wired devices might create in a gym.

Exemplar candidate work

Question 17(d) – Medium level answer

(d)* Discuss the use of wireless technologies for uploading data to and from the 'connected' fitness equipment.

[10]

A wireless technology uploads data via a WIFI or Bluetooth connection, it doesn't contain any hardware devices. This is extremely useful for uploading data to and from the 'connected' fitness equipment because it's automatic and it uploads information about the workout to the user's equipment or their electronic device. The wireless technology guarantees fast data transfer speeds and a high bandwidth, hence why it's automatic, and this is beneficial to the company as it causes no delays and any type of buffering for the customers because they could get their workouts over and done with very quickly, as well as getting useful information to educate them about their workouts. Also, you do not need a server and it sends out data between clients with a centralised connection. As it's not a hardware device it will be less heavy to carry, ~~and~~ however it may have large upfront cost and to maintain it for the newest updates will also increase the prices as time goes by and lastly, you need a good technical help to set it up.

Commentary

The candidate has described how Wifi and Bluetooth can upload data to and from the connected fitness equipment i.e. the users' devices. They make reference to Wifi having faster data transfer speeds than Bluetooth. The answer then becomes less relevant. Middle of the mark band is a suitable grade as they have done more than identify wireless technologies, but have not developed a line of reasoning that discusses the pros and cons of different technologies.

In order to achieve a grade in mark band 3 the candidate could have continued to explain more about each technology.

The Bluetooth ability to quickly pair with gym equipment is very convenient for gym users who want to get data on their performance into their devices. The relative short range of Bluetooth will not be an issue in the context of a gym.

The Wifi has faster data transfer speeds than Bluetooth, but does have the vulnerability of being easily intercepted. Security for customer data is therefore very important and could also require the wireless data traffic to be encrypted.

Question 18

18 Staff at AMEC Leisure have received a customer complaint via one of its social media channels.

(a) Identify **one** social media channel that could be used by AMEC Leisure.

Social media channels that could be used by AMEC Leisure include:

- Accept any suitable social media channel.

[1]

(b) Explain **two** barriers to communication that could be encountered when receiving a complaint via social media.

1 .. **Possible barriers to communication that could be encountered when receiving a complaint via social media include:**

- • Not able to see body language (1) so can't tell if the user is upset/angry/calm (1) so will be unable to respond appropriately (1)
- • Limited amount of content that can be included (1) so complaint isn't fully described (1) which would make it difficult to ensure the complaint is addressed (1)
- • Staff member could be dealing with more than one complaint (1) so not concentrating properly (1) which may make the customer more angry (1)
- • Any other valid suggestion.

2

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[6]

Mark Scheme Guidance

Question 18(a):

For one mark.

Question 18(b):

Up to three marks for each of two explanations:

Allow mix and match for expansions.

Examiner comments

Question 18(a) – Candidates were asked to identify one social media channel that could be used by AMEC Leisure. Many good responses were provided with the name of a social media channel. A few others were not able to identify a social media channel and put email.

Question 18(b) – Candidates were asked to explain two barriers to communication that could be encountered when receiving a complaint via social media. Up to three marks were available here for each of the two explanations. Many good responses provided foreign language and body language as the barriers and then expanded on these. Some candidates repeated the first barrier for their second answer. A technical answer was not required here.

Question 19

19 Before disposing of computer equipment, AMEC Leisure must ensure it has removed all data.

(a) (i) Identify **one** method that could be used to remove data from equipment before disposal.

Possible methods that could be used to remove data from equipment before disposal include:

[1]

- Overwrite data (1)
- Electromagnetic wipe (1)
- Physical destruction (1)
- Reset to factory settings (1)
- Any other valid suggestion.

(ii) Explain **two** advantages and **one** disadvantage of the method you have chosen.

Advantage 1 .. **Overwrite data**

Advantages:

- Can be certain that the data is gone (1) as it has been overwritten many times (1).
- System hasn't been physically destroyed (1) so could be donated to charity (1).
- Any other valid suggestion.

Advantage 2 ..

Disadvantage:

- Can be time consuming (1) so would take up staff resource whilst overwrite is occurring (1).
- Any other valid suggestion.

..... **Electromagnetic wipe**

Disadvantage.

Advantages:

- Can be certain that the data is gone (1) as the storage device has been electromagnetically wiped (1).
- System hasn't been physically destroyed (1) so could be (donated to charity (1).
- Any other valid suggestion.

Disadvantage:

- Equipment can be expensive (1) and difficult to get hold of (1).
- Any other valid suggestion.

[6]

Physical destruction

Advantages:

- Can be certain that the data is gone (1) as the storage device has been physically destroyed (1).
- No chance of the data being stolen (1) as the storage device no longer exists (1).
- Any other valid suggestion.

Disadvantage:

- Equipment can't be donated to charity (1) so not environmentally friendly (1).
- Any other valid suggestion.

Mark Scheme Guidance

Question 19(a)(i):

For one mark:

Suggestions about copying data to an alternative location are acceptable.

Question 19(a)(ii):

Up to two marks for each of three explanations. Four marks for advantages and two marks for disadvantage.

If answers can be applied to any form of data removal methods then marks should be awarded.

Examiner comments

Question 19(a)(i) – Candidates were asked to identify one method that could be used to remove data from equipment before disposal. Many good responses correctly identified one suitable method. A few others translated remove as backup. The choice of wording showed a lack of technical knowledge in several candidates.

Question 19(a)(ii) – Candidates were asked to explain two advantages and one disadvantage of the method they had chosen in 19(a)(i). To get marks for this question, candidates needed to show an understanding of the advantages and disadvantages of the method they had chosen. Good responses provided an advantage/disadvantage and expanded on it to explain why it was an advantage/disadvantage. Others needed to provide a clear advantage/disadvantage with a logical expansion. Some candidates described the purpose rather than an advantage of the method. A disadvantage of the method was often more difficult for candidates to recall.

Questions 20(a), (b) and (c)

20 Each staff member at AMEC Leisure has a tablet computer with a bespoke operating system.

(a) Explain **one** benefit to AMEC Leisure of using a bespoke operating system.

Possible benefits to AMEC Leisure of using a bespoke operating system include:

- Only the features that AMEC Leisure needs (1) will be included in the operating system (1).
- Un-needed features (1) can be removed from the operating system (1).
- Can customise the look of the operating system (1) so it fits in the AMEC Leisure's way of working (1).
- Any other valid suggestion.

[2]

(b) Describe **three** functions that a tablet computer's operating system will perform.

1.. **Possible functions that a tablet computer's operating system will perform include:**

- Provides a user interface (1) that the end user can interact with (1).
- Manages hardware (1) such as display adaptor/sound card (1).
- Manages resources (1) such as memory allocation (1).
- Dealing with interrupts (1) from other system resources (1).
- Any other valid suggestion.

2.....

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3.....

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[6]

(c) Describe **two** troubleshooting tools that could be used to investigate faults with the tablet computers.

1.. **Possible troubleshooting tools that could be used to investigate faults with the tablet computers include:**

- Logs (1) which display details of what the system has been doing (1) e.g. event viewer (1).
- Baselines (1) to compare system now to how it used to be (1).
- Installable tools (1) to interrogate system (1).
- Memory dump (1) displays contents of memory (1).
- Anti-virus (1) to check for malicious software (1).
- Any other valid suggestion.

2.....

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.....

[4]

Mark Scheme Guidance

Question 20(a):

Up to two marks for explanation.

Question 20(b):

Up to two marks for each of three descriptions.

Question 20(c):

Up to two marks for each of two descriptions.

Examiner comments

Question 20(a) – Candidates were asked to explain one benefit to AMEC Leisure of using a bespoke operating system. Many good responses were able to provide one benefit and explain why it was a benefit. Others were able to identify that it would meet AMEC Leisure’s needs or requirements but were not able to explain further. Some responses revealed a lack of knowledge of the term bespoke.

Question 20(b) – Candidates were asked to describe three functions that a tablet computer’s operating system will perform. Several good responses were able to describe 3 functions of the operating system and achieve full marks. Many others either described what the tablet computer could be used for, or what the user could do with the operating system rather than the functions the operating system itself would perform. Some candidates were able to identify one or more of the functions of the operating system.

Question 20(c) – Candidates were asked to describe two troubleshooting tools that could be used to investigate faults with the tablet computers. Good responses correctly described at least one troubleshooting tool. Anti-virus software to check for malicious software was quite frequently provided. Some candidates provided no response to this question.

Exemplar candidate work

Question 20(a) – Low level answer

20 Each staff member at AMEC Leisure has a tablet computer with a bespoke operating system.

(a) Explain **one** benefit to AMEC Leisure of using a bespoke operating system.

Employees cannot access external applications other than the businesses meaning they cant lose concentration.

[2]

Commentary

The candidate has not given a clear benefit to AMEC in their answer and has not understood what a bespoke operating system is. "Access external applications" is not an operating system issue.

"Only features useful to the business can be included in a bespoke operating system." Would have gained the candidate full marks.

Question 20(a) – Medium level answer

20 Each staff member at AMEC Leisure has a tablet computer with a bespoke operating system.

(a) Explain **one** benefit to AMEC Leisure of using a bespoke operating system.

Bespoke operating systems can be tailored to the businesses needs, therefore AMEC Leisure can control and limit what ^{each} ~~the~~ staff can access and edit.

[2]

Commentary

The candidate has understood that a bespoke operating system can have its features tailored to meet the requirements of the business, but has not explained. This is why the candidate has been awarded some, but not all of the marks for their answer.

This is an explain question which means the candidate needed to continue with WHY or possibly HOW the system could be tailored (for example by removing redundant features), but they continued to talk about user permissions. User permissions are a feature of any operating system.

Exemplar candidate work

Question 20(b) – Low level answer

(b) Describe **three** functions that a tablet computer's operating system will perform.

1 controlling ~~things~~ devices or other
technology ~~data~~ wirelessly.

2 it is less time consuming as you can
do things from a far

3 Equipment and devices can be monitored
better and quicker.

[6]

Commentary

The candidate has only identified one function without describing this. The second and third answers are not relevant.

Simple identification for parts 2 and 3 would have made this a medium level answer.

For example:

Provides a user interface and Manages files.

Exemplar candidate work

Question 20(b) – Medium level answer

(b) Describe **three** functions that a tablet computer's operating system will perform.

1. It will allow the tablet computer to multitask such as viewing entertainment while viewing received emails.

2. It will allow the user to open up more than one application such as a word processing application and a game.

3. It can allow the user to do complex calculations on a calculator on the tablet computer.

[6]

Commentary

The candidate has given an appropriate function for the first answer and described how it will perform. The second mark has been given for managing applications/software but the following description is repetition of answer 1. Answer 3 is too vague for a mark. Describing a third function would improve this to a high level answer.

Answer 2 could have been improved with more detail:

It will allow the user to start up a web browser (1), which would allow access to the internet(1).

Exemplar candidate work

Question 20(b) – High level answer

(b) Describe **three** functions that a tablet computer's operating system will perform.

1. Allocate the amount of time a task can have to run. Each task will have a different amount of time.

2. Get the data, applications, ^{memory} when needed by the user from the harddrive

3. If a more urgent task comes up it will allocate that task priority and the other task will have to wait or be carried out slower.

[6]

Commentary

The candidate here has made a good attempt at part 2 of the question, but has not made clear what the function is.

One possible improvement would be:

It manages the hardware (1) such as the hard drive when data is required (1).

Exemplar candidate work

Question 20(c) – Low level answer

(c) Describe **two** troubleshooting tools that could be used to investigate faults with the tablet computers.

1. You could turn off the tablet
and then turn it back on and
see if.

2. Anti-virus scanning which checks
which removes any virus in the
tablet.

[4]

Commentary

The candidate has only identified one troubleshooting tool but has not said how it could be used to investigate faults.

In order to do this the answer could have read:

Anti-virus software (1) would report back the virus on the system (1) allowing it to be removed.

Exemplar candidate work

Question 20(c) – Medium level answer

(c) Describe two troubleshooting tools that could be used to investigate faults with the tablet computers.

1. ~~Page~~ Self-test this is to see if the tablet computer is working because the tablet computer might not be working due to ~~the~~ low battery or not being connected properly
2. Diagnostic software this will run a test on the tablet for the company to see what is going on the status of tablet and what the issue is

[4]

Commentary

This is a medium level answer as it identifies the tool and the possible reported faults.

Diagnostic software is not specific enough on its own. In order to achieve a high level answer, a more specific tool should be given with an explanation of how it can be used to investigate faults.

Debugging tools (1) that report back errors (1) could be used.

Exemplar candidate work

Question 20(c) – High level answer

(c) Describe **two** troubleshooting tools that could be used to investigate faults with the tablet computers.

1. event viewer to record all the faults and other issues with the equipment so all IT staff know the issues and can see all the problems each device has had in the past
2. power test to see if there is a problem with the battery and if something is draining power too quick

[4]

Commentary

The candidate has answered the first question well, but has been given the benefit of doubt for the phrase 'Power test' which was followed by a battery problem rather than connectivity.

The ideal answer here could be:

Power On Self Test (1) can report back that the memory is not mounted correctly (1).

This identifies the tool and how it can be used to investigate a fault.

Mark Scheme Guidance

Question 20(d):

Correct answer only.

Question 20(e):

Up to two marks for explanation.

Question 20(f):

One mark for identification of utility software type and one mark for description of type.

Question 20(g):

One mark for identification of utility software type and one mark for description of type.

Examiner comments

Question 20(d) – Candidates were asked to identify three pieces of information that must be configured to allow the tablet computer to access a web site on the internet. A few good responses provided IP address, subnet mask and default gateway to achieve full marks. Many others provided IP address.

Question 20(e) – Candidates were asked to explain one benefit of not using automated methods to configure the addressing information. To get marks for this question, candidates needed to show an understanding of how manual configuration of addressing information restricts access to a network and increases security by not allowing a device to connect to the network automatically. Good responses were able to identify that one benefit would be to increase security. There was a distinct lack of knowledge and understanding shown by candidates here.

Question 20(f) – Candidates were asked to identify and describe one type of utility software that can be used for protecting data from accidental deletion. Good responses identified and described suitable utility software. Others were only able to identify suitable software.

Question 20(g) – Candidates were asked to identify and describe one other type of utility software that can be used to improve the performance of the tablet computer. Many good responses were able to identify suitable utility software and correctly describe what it did. Others could identify one but not describe it accurately.

Exemplar candidate work

Question 20(d) – Low level answer

- (d) The tablet computers are connected to a network using the TCP/IP protocol. The addressing information must be configured manually.

Identify **three** pieces of information that must be configured to allow the tablet computer to access a web site on the internet.

1. IP address
2. Proxy address
3. Mac address

[3]

Commentary

This candidate has identified one out of the three possible pieces of information that MUST be configured to allow the tablet computer to access a web site on the internet.

The other two are 'subnet mask' and 'default gateway'. Either one would have taken the mark up to a medium level answer.

Question 20(d) – Medium level answer

- (d) The tablet computers are connected to a network using the TCP/IP protocol. The addressing information must be configured manually.

Identify **three** pieces of information that must be configured to allow the tablet computer to access a web site on the internet.

1. IP address
2. sub net mask
3. ~~gateway~~ HTTP address

[3]

Commentary

This candidate has identified two out of the three possible pieces of information that MUST be configured to allow the tablet computer to access a web site on the internet.

The remaining answer is 'default gateway'. This would have brought the answer up to a higher level answer.

Exemplar candidate work

Question 20(d) – High level answer

- (d) The tablet computers are connected to a network using the TCP/IP protocol. The addressing information must be configured manually.

Identify **three** pieces of information that must be configured to allow the tablet computer to access a web site on the internet.

1. The IP address, it gives each computer its own individual number identity.
2. The default gateway. This allows computers to communicate with other devices.
3. The ~~IP~~ Subnet mask, which masks the IP address.

[3]

Commentary

The candidate has successfully identified the only three possible answers for this question:

IP address.

Default Gateway.

Subnet Mask.

Exemplar candidate work

Question 20(e) – Low level answer

- (e) Explain **one** benefit of **not** using automated methods to configure the addressing information.

There may be errors and faults
 when configuring address information
 & doing it manually will allow the
 user to see the information. [2]

Commentary

The candidate has not explained a benefit in their answer.

A short answer which would have achieved a mark might have been:

Higher security (1).

Question 20(e) – Medium level answer

- (e) Explain **one** benefit of **not** using automated methods to configure the addressing information.

You have control over it, instead of
 an automatic method that may be
 incorrect, so you can adjust any
 changes needed. [2]

Commentary

The candidate has been given a mark for a combination of their whole answer which alludes to having more control over the network. There is not enough precision in either part to award two marks.

Allocating IP addresses manually will mean higher security (1) as this will only allow devices that have already been configured access to the network(1).

The above example is improved to a higher mark by identifying a benefit (higher security) and explaining how this is a benefit.

Exemplar candidate work

Question 20(f) – Low level answer

(f) Data on the tablet computers must be protected from accidental deletion.

Identify and describe **one** type of utility software that can be used for this purpose.

1 cloud storage, this will help them as they back
 up constantly, in case if
 the data, even if it is deleted.

[2]

Commentary

The candidate offers cloud as an answer. This is not a type of utility software. For a medium level answer, the candidate could have offered:

Backup (1).

Question 20(f) – Medium level answer

(f) Data on the tablet computers must be protected from accidental deletion.

Identify and describe **one** type of utility software that can be used for this purpose.

Backup software can be used to
 keep a copy of the data backed up
 in case it gets accidentally deleted.

[2]

Commentary

This candidate has identified 'Backup software' correctly for 1 mark. However, they have repeated the phrase in their second half of the answer rather than giving more detail.

Full marks would have been awarded for:

Backup software (1) can store copies of the files in a remote location/ on a removable disk (1).

Exemplar candidate work

Question 20(g) – Low level answer

- (g) Identify and describe **one other** type of utility software that can be used to improve the performance of the tablet computer.

Anti-virus software will scan the computer for any viruses or malware ~~ware~~ and will delete or isolate them to keep the computer safe

[2]

Commentary

The candidate has offered 'Antivirus' as the answer. This is incorrect as the constant background running of the antivirus software will have a negative impact on the performance of the tablet computer.

Just identifying an alternative answer would have given a medium level answer:

Disk cleaner (1).

Question 20(g) – Medium level answer

- (g) Identify and describe **one other** type of utility software that can be used to improve the performance of the tablet computer.

Disk defragmentor to make it faster to gather data from the storage device

[2]

Commentary

The candidate has identified 'disk defragmenter' correctly for 1 mark, but the description of what it does is very vague. Hence no mark awarded for description.

An improvement would be:

Disc defragmenter (1) which will arrange data in continuous clusters which allows faster data retrieval (1).



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