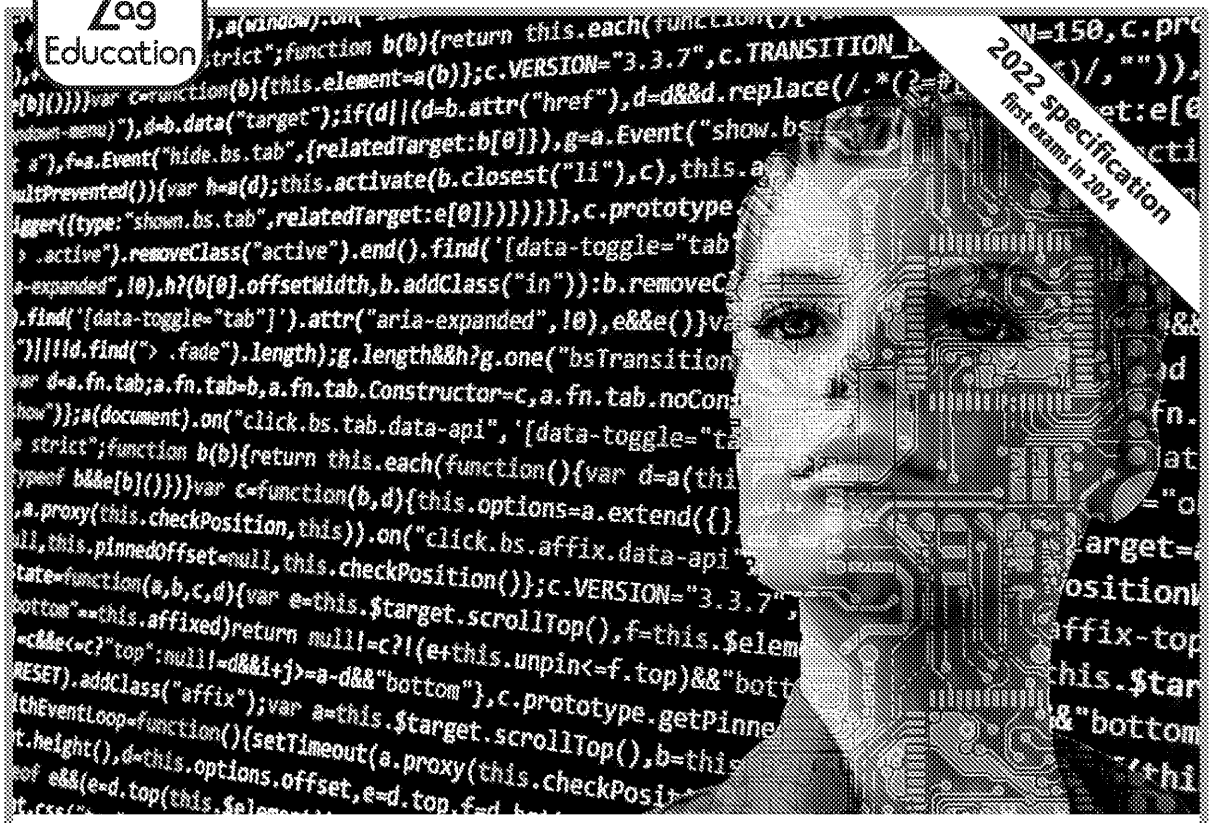

Practice Papers

for OCR L1/2 Cambridge Nationals in IT

R050: IT in the Digital World

zigzageducation.co.uk

POD 12470

Contents

Product Support from ZigZag Education ii
Terms and Conditions of Use iii
Teacher's Introduction 1
Specification Coverage 2
Write-on Papers 5
Practice Paper 1 5
Practice Paper 2 15
Practice Paper 3 25
Practice Paper 4 36
Non-write-on Papers 47
Practice Paper 1 47
Practice Paper 2 50
Practice Paper 3 53
Practice Paper 4 57
Mark Schemes 61
Practice Paper 1 – Mark Scheme 61
Practice Paper 2 – Mark Scheme 65
Practice Paper 3 – Mark Scheme 69
Practice Paper 4 – Mark Scheme 74

Teacher's Introduction

This resource has been written to support students who are preparing for the **R050** external examination in OCR Cambridge National Level 1 / Level 2 in IT **(J836)**. This pack contains questions and detailed mark scheme answers that strictly adhere to the unit content and guidance stated in the updated **2022** specification. This will therefore give you confidence that this resource will guide your students on the correct learning path to success.

Remember!
Always check the exam board website for new information, including changes to the specification and sample assessment material.

Note: It is likely that OCR will award marks for other acceptable answers beyond those stated in the specification. However, rather than trying to prejudge these, the mark schemes in this pack have been limited to answers stated within the J836 specification content only. When a student gives an answer that is not on the specification (and, therefore, is not in this mark scheme), please use your professional judgement and award marks as you would expect an OCR examiner to do.

These papers can be used either as mock examination papers or to access additional questions while the specification is being taught. The specification coverage grid on the following pages indicates where each specification point is tested.

This pack includes **four** brand-new question papers and supporting mark schemes. These papers contain:

- original questions that students will not have been able to access before
- questions that are structured similarly to the way their actual exam will be structured
- questions that cover all of the specification points more than once – you will, therefore, be able to assess how well your students understand the content across the whole unit
- a range of written questions that students will need to be able to respond to in their exam
- practice diagrams to give students additional practice drawing flow charts, mind maps, wireframes and visualisation diagrams, which students can often find tricky to draw – a full solution is given for each of these diagrams
- extended questions to give students additional practice responding to these types of questions
- up-to-date content that reflects the latest **2022** specification changes to best prepare students for their exam

Important Notice

This resource has been written based on the information made available by the exam board in November 2023. You should always check the exam board website for new information and possible changes to the specification and the format of the exam.

December 2023

Specification Coverage

Topic 1: Design tools

Specification point	Paper
1.1 Types of design tools • Flow charts • Mind maps • Visualisation diagrams • Wireframes	Q18

Topic 2: Human Computer Interface (HCI) in everyday

Specification point	Paper
2.1 The purpose, importance and use of HCI • Banking • Embedded systems • Entertainment • Fitness • Home appliances • Retail	Q6
2.2 Hardware considerations • Display • Resources	Q14
2.3 Software considerations • Operating system • Digital platform	
2.4 User interaction methods • Gesture • Keyboard • Mouse • Touch • Voice	Q7

Topic 3: Data and Sharing

Specification point	Paper
3.1 Information and data • What data is • What information is • The relationship between data and information	Q4
3.2.1 Use of data types in different contexts • Alphanumeric • Boolean • Date • Numeric • Text	Q10
3.2.2 The difference between validation and verification • Data type check • Format check • Input mask • Length check • Limited choice • Lookup • Presence check • Range check	Q16a Q16b
3.2.4 Data verification tools • Double entry • Manual checking	Q5
3.3 Data collection methods • Primary • Secondary	Q19a Q19b Q19c Q19d

Specification point		Paper
3.4	**Storage of collected data** • Logical location • Physical location	Q20
3.5.1	**Importance and purpose of testing**	Q15a
3.5.2	**Test data** • Extreme • Invalid (Erroneous) • Valid	Q15b
3.5.3	**Types of test data** • Technical • User	Q15c

Topic 4: Cyber-security and legislation

Specification point		Paper
4.1	**Threats** • Denial of Service (DoS) • Malware • Hacking • Social engineering	Q1 Q17a
4.2	**The impacts of a cyber-security attack** • Data destruction • Data manipulation • Data modification • Data theft – in transit and at rest • Denial of Service (DoS) to authorised users • Identity theft	17b
4.3	**Prevention methods** • Physical • Digital • Secure destruction of data	Q2 Q3
4.4	**Legislation related to the use of IT systems** • Computer Misuse Act • Copyright, Designs and Patents Act • Data Protection Act • Freedom of Information Act • Health and Safety at Work Act	Q13

Topic 5: Digital communications

Specification point		Paper
5.1	**Types** • Audio • Leaflet • Newsletters • Reports • Video • Voice over Internet Protocol (VoIP) • Collaboration tools • Infographics • Presentations • Social media • Websites	
5.2	**Software** • Desktop publishing (DTP) • Standard office applications	Q9
5.3	**Digital devices** • Smartphone • PC/Laptop • Smartboard • Smart TV • Tablet	
5.4	**Distribution channels** • Types of distribution channel • Distribution channel connectivity • Audience demographics	Q11 Q12

Topic 6: Digital communications

Specification point		Paper
6.1	**Use of IoE** • What is the IoE • The four pillars of the IoE • The interactivity between the four pillars • Intelligent activity	Q8
6.2	**Application areas in everyday life** • Energy management • Health • Manufacturing • Military / Emergency services • Smart devices • Transport	

OCR Level 1 / Level 2 Cambridge Nat

Unit R0[illegible]IT in the Digital World

Practice Paper 1

Name	

Time allowed
1 hour 30 minutes

Instructions
Answer **all** of the questions and use the space provided.

Information
The total marks available for this paper is **70**. The number of marks available for each question is shown in brackets.

Answer ALL questions in the spaces provided.

SECTION A

1. Malware threats pose a risk to individuals and organisations.

   State **two** types of malware threat.

   1 .....

   2 .....

2. Which of these is an example of physical security? Tick (✓) the correct

   A Encryption ☐

   B Usernames ☐

   C Passwords ☐

   D Facial recognition ☐

3. Which of these is an example of logical security? Tick (✓) the correct

   A RFID ☐

   B Keypads ☐

   C Anti-malware ☐

   D Door locks ☐

4. State what is meant by the term 'data'.

   .....

   .....

5. State the name of a tool that involves entering data twice to ensure th the same.

   .....

   .....

6. Banking is one example of where a Human Computer Interface (HCI)

   Identify **one** more example of where an HCI can be used.

   .....

   .....

7. State an example of a user interaction method that can be used to a with HCIs.

   .....

   .....

8. Which of these is **not** one of the four pillars of the Internet of Everythi
Tick (✓) the correct box.

A People ☐

B Things ☐

C Places ☐

D Data ☐

9. Draw a line fro[illegible] task to the correct matching software that woul

Task	S
Writing a letter to a customer	
Producing graphs and charts	W
Creating a poster that contains text and images	D

10. Which of these is **not** a numeric data type? Tick (✓) the correct box.

A Boolean ☐

B Currency ☐

C Integer ☐

D Real ☐

11. Which [illegible]ese is **not** an example of a distribution channel? Tick (✓) t

A Email ☐

B Instant messaging ☐

C VoIP ☐

D Data validation ☐

12. When choosing which type of distribution channel to use, you should c
demographics to ensure it is suitable for their needs.

State **one** audience demographic considerat[illegible]ou would make befo
distribution channel.

.....

.....

13. State the name of legislation that makes hacking illegal in the United K

.....

.....

SECTION B

Read the scenario in the box below. Questions 14 to 20 relate to this scen

Scenario

Felix owns a luxury cake business. He makes cakes for special events su
anniversaries.

Felix would like to start selling cakes on his website. **Figure 1** shows part

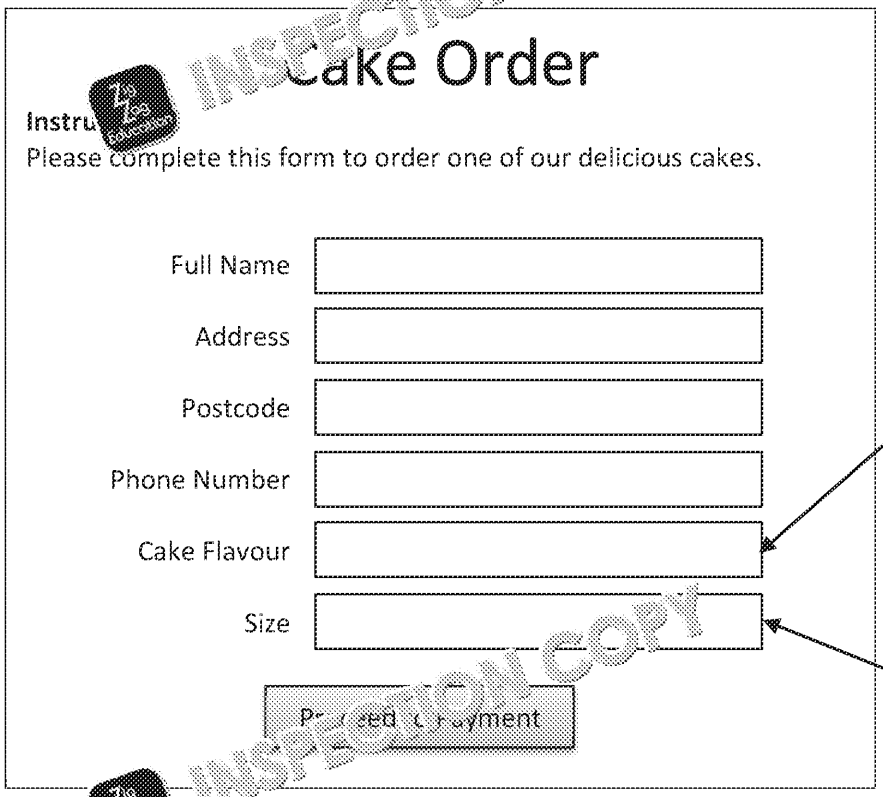

Figure 1

14. State **two** factors that can impact the way an HCI is displayed on a de

1 .....

.....

2 .....

.....

15. (a) Felix will need to test his cake ordering system.

Explain why it is important to test software before customers use

.....

.....

.....

.....

(b) Felix will test the cake ordering system using a range of different

Complete the table by identifying **three different** types of test dat
the **size** text box shown in **Figure 1**. You should give an example
of test data.

Type of data	Example d

(c) Describe the difference between technical testing and user testing

.....

.....

.....

.....

16. Felix will make use of data validation in his cake ordering system.

(a) D what is meant by the term 'data validation'.

.....

.....

.....

.....

Figure 1 is shown again here for your reference.

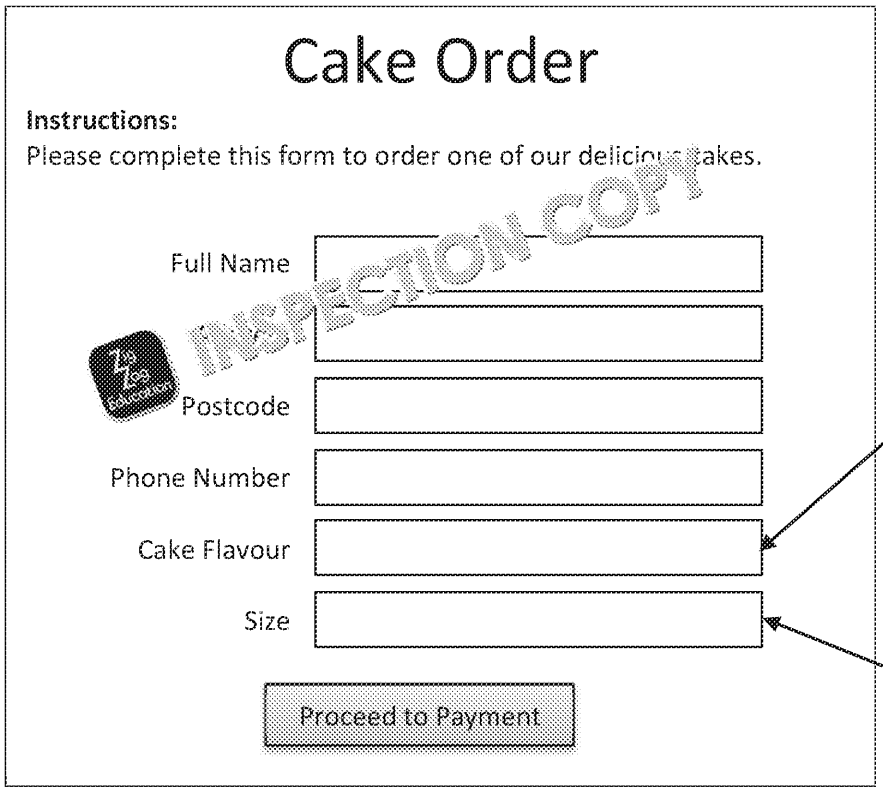

Figure 1

(b) Felix would like to use data validation in his cake ordering system

Complete the table by describing **four different** methods of valida
You should give a specific example of how each of these can be
form shown in **Figure 1**.

Validation type	Example u

17. Felix wants to ensure that the cake ordering system is secure to avoid his business.

(a) Felix will make use of 'white hat' and 'grey hat' hacking to identify security systems.

Explain the difference between 'white hat' and 'grey hat' ethical ha

.....

.....

.....

.....

(b) Explain **three** possible negative impacts that a cyber-security attac Felix's business.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

3 .....

.....

.....

.....

18. When a customer wishes to order a cake:

1. They select the design of cake they want to order.
2. They enter the occasion for which the cake is for.
3. They enter any food allergies.
4. They choose a delivery method.
5. If they choose "Next Day Delivery" then "£19.99 Delivery Charge"
6. If they choose "Express Delivery" then "£9.99 Delivery Charge"
7. If they do not choose "Next Day Delivery" or "Express Delivery" is displayed
8. After the process, "Order Confirmed" is displayed.

Draw a **flow chart** on the next page to show this process.

Draw your **flow chart** here.

19. Felix would like to collect data to find out other types of cake that cust
considering using either primary data or secondary data collection me

(a) Describe the difference between primary data and secondary dat

.....

.....

.....

.....

(b) S o different types of primary data collection methods that

1 .....

2 .....

(c) State **two** different types of secondary data collection methods th

1 .....

2 .....

(d) Explain **one** drawback of using secondary data to Felix.

.....

.....

.....

.....

20. Felix is opening more cake shops across the United Kingdom. He is c
allow the different cake shops to share data with one another.

Discuss the advantages and disadvantages of Felix storing his data o

End of Question Paper

Practice Paper 1

Answer ALL questions.

SECTION A

1. Malware threats pose a risk to individuals and organisations.
   State **two** types of malware threat.

2. Which of these is an example of physical security?
   A Encryption **C** Passwords
   B Username **D** Facial recognition

3. Which of these is an example of logical security?
   A RFID **C** Anti-malware
   B Keypads **D** Door locks

4. State what is meant by the term 'data'.

5. State the name of a tool that involves entering data twice to ensure th
   the same.

6. Banking is one example of where a Human Computer Interface (HCI)
   Identify **one** more example of where an HCI can be used.

7. State **one** example of a user interaction method that can be used to a
   with HCIs.

8. Which of these is **not** one of the four pillars of the Internet of Everythi
   A People **C** Places
   B Things **D** Data

9. Match each task to the correct matching software that would be used.

Task	S
Writing a letter to a customer	
Producing graphs and charts	W
Creating a poster that contains text and images	D

10. Which of these is **not** a numeric data type?
    A Boolean **C** Integer
    B Currency **D** Real

11. Which of these is **not** an example of a distribution channel?
    A Email **C** VoIP
    B Instant messaging **D** Data validation

12. When choosing which type of distribution channel to use, you should c
    demographics to ensure it is suitable for their needs.
    State one guidance demographic consideration you would make befo
    distribution channel.

13. State the name of legislation that makes hacking illegal in the United K

SECTION B

Read the scenario in the box below. Questions 14 to 20 relate to this scen

Scenario

Felix owns a luxury cake business. He makes cakes for special events su
anniversaries.

Felix would like to start selling cakes on his website. **Figure 1** shows part

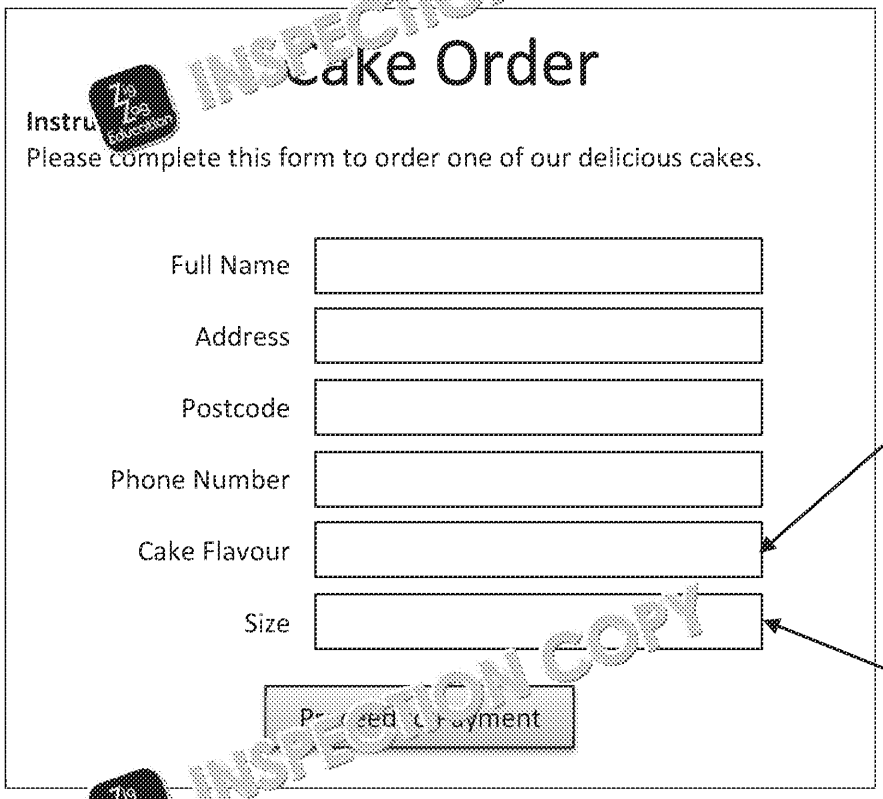

Figure 1

14. State **two** factors that can impact the way an HCI is displayed on a de

15. (a) Felix will need to test his cake ordering system.
Explain why it is important to test software before customers use

(b) Felix will test the cake ordering system using a range of different
Copy and complete the table by identifying **three different** types
used to test the **size** text box shown in **Figure 1**. You should give
for each type of test data.

Type of data	Example dat

(c) D e the difference between technical testing and user testing

16. Felix will make use of data validation in his cake ordering system.
(a) Describe what is meant by the term 'data validation'.

(b) Felix would like to use data validation in his cake ordering system

Copy and complete the table by identifying **four different** method could use. You should give a specific example of how each of the ordering form shown in **Figure 1**.

Validation type	Example u

17. Felix w[illegible]o ensure that the cake ordering system is secure to avoid his business.
(a) Felix will make use of 'white hat' and 'grey hat' hacking to identify security systems.
Explain the difference between 'white hat' and 'grey hat' ethical h

(b) Explain **three** possible negative impacts that a cyber-security atta Felix's business.

18. When a customer wishes to order a cake:

1. They select the design of cake they want to order.
2. They enter the occasion for which the cake is for.
3. They enter any food allergies.
4. They choose a delivery method.
5. If they choose "Next Day Delivery" ther[illegible].99 Delivery Charg
6. If they choose "Express Deliver[illegible] £9.99 Delivery Charge"
7. If they do not choose "N[illegible]D[illegible]elivery" or "Express Delivery" is displayed.
8. At the end [illegible]process, "Order Confirmed" is displayed.

Draw a **flow chart** to show this process.

19. Felix would like to collect data to find out other types of cake that cust considering using either primary data or secondary data collection me
(a) Describe the difference between primary data and secondary dat

(b) State **two** different types of primary data collection methods that

(c) State **two** different types of secondary data collection methods th

(d) Explain **one** drawback of using secondary data to Felix.

20. Felix is opening more cake shops across the [illegible]d Kingdom. He is c allow the different cake shops to share d[illegible]ta [illegible]one another.

Discuss the advantages and disadvantages of Felix storing his data o

End of Question Paper

Practice Paper 1 – Mark Scheme

Qu.	Answer
1	1 mark per threat, up to a maximum of 2 marks. • Adware (1) • Botnet (1) • Ransomware (1) • Spyware (1) • Trojan Horse (1) • Virus (1) • Worm (1)
2	**D** – Facial recognition (1)
3	**C** – Anti-malware (1)
4	1 mark for: • [illegible]ct [illegible]ngures / raw material (1) • Values that have n • [illegible] with no meaning (1) • Values have no str
5	1 mark for: • Data verification (1) • Double entry (1)
6	1 mark for: • Embedded systems (1) • Entertainment (1) • Fitness (1) • Home appliances (• Retail (1) Allow examples of these. For example, allow 'smart meter' as an example
7	1 mark for: • Gestures (1) • Keyboard (1) • Mouse (1) • Touch (1) • Voice (1) Allow other examples of gestures that are suitable for touchscreen.
8	**C** – Places (1)
9	1 mark for one correct match. 2 marks for [illegible] correct matches Writing a letter to [illegible] → Spread [illegible]ns and charts → Word p [illegible]ting a poster that contains text and images → Deskto
10	**A** – Boolean (1)
11	**D** – Data validation (1)
12	1 mark for: • Accessibility (1) • Age (1) • Gender (1) • Location (1)
13	Computer Misuse Act (1)
14	1 mark for each factor, up to a maximum of 2 marks. • Type of device / type of touchscreen (1) • Size of the screen (1)
15a	1 mark for stating an initial point and then 1 mark for a suitable expansion, up t • **To ensure the program works correctly** (1) [illegible]c[illegible]stomers can succe to ensure customers have confidence [illegible]th [illegible]stem (1) • **To ensure it meets his requ[illegible]ts** (1) to ensure it does exactly wh • **To ensure it produc[illegible] [illegible]esults** (1) so that customers are given
15b	1 mark for each [illegible]t[illegible]ing data and 1 mark for a suitable example, up to • [illegible]**me** [illegible] (1) Example data = 1 or 4 (1) • [illegible]**data** (1) Example data = any value greater than 4 (1) • V[illegible] **data** (1) Example data = 2 or 3 (1)

Qu.	Answer
15c	1 mark for technical testing and 1 mark for user testing, up to a maximum • **Technical testing** checks the system works correctly / functions corre results (1) // will check that the system meets the user requirements (1 • **User testing** – observing users completing tasks / interacting with the feedback on how it can be improved (1)
16a	1 mark for stating an initial point and then 1 mark for a suitable expansion, up t • **Checks the data entered into a syste[m] at [i]nput** (1) to check that it reasonable / without boundaries (1) to reduce the number of errors (1) Do not accept 'to check data is accurate/correct'
16b	1 mark for each type of validation and 1 mark for a suitable example, up t • **Data type** (check) (1) to ensure the full name contains only letters (1) • **Field choice** (1) to ensure a valid flavour has been selected (1) • **Length** (1) to ensure a valid flavour has been selected (1) • **Presence check** (1) to ensure an address has been entered (1) • **Range check** (1) to ensure the cake size is between 1 and 4 (1) Allow other suitable examples of data validation.
17a	1 mark for white hat hacking and 1 mark for grey hat hacking, up to a max White hat hacking: • The hacker has permission from the organisation to use their skills to i their systems (1) • Must follow ethical guidelines/standards (1) Grey hat hacking: • The hacker doesn't have permission from the organisation to use their vulnerabilities in their systems (1) • Doesn't always follow ethical guidelines/standards (1)
17b	1 mark for stating an initial impact and then 1 mark for a suitable expansion, up • **Data destruction** (1) could mean that important data is permanently w unrecoverable (1) • **Data manipulation/modification** (1) could mean that data is changed impacts the business (1) • **Data theft** (1) could mean that users' bank account details are stolen their money stolen (1) • **Data loss** (1) – meaning that customers cannot access the ca will lose money due to orders not being placed (1) • **Identity theft** (1) – customers' personal data may be stolen for illegal Allow other suitable answers as long as they are suitable for the cake orde
18	The student's flow chart should be assessed using this marking grid: **Level** / **Marking guidance** Level 3 (7–8 marks): • Mostly accurate use of correct symbols • Mostly accurate use of connections to show direction • Diagram covers most of the scenario given Level 2 (4–6 marks): • Some use of correct symbols • Some use of connections to show direction/order • Diagram covers some of the scenario given Level 1 (1–3 marks): • Limited use of correct symbols • Limited use of connections to show direction/order • Diagram covers little of the scenario given Example solution overleaf

Preview of Answers Ends Here