

...day ... Month Year – Morning/Afternoon

Level 1/Level 2 Cambridge Nationals in IT

R050/01 IT in the Digital World

SAMPLE ASSESSMENT MATERIAL (SAM)

Time allowed: 1 hour 30 minutes

No extra materials are needed.	
Write clearly in black ink. Do not write in th	e barcodes.
Centre number	Candidate number
First name(s)	
Last name	

INSTRUCTIONS

- · Use black ink.
- Write your answer to each question in the space provided. You can use extra paper if you need
 to, but you must clearly show your candidate number, the centre number and the question
 numbers.
- · Answer all the questions.

INFORMATION

- The total mark for this paper is 70.
- The marks for each question are shown in brackets [].
- · This document has 16 pages.

ADVICE

· Read each question carefully before you start your answer.



Section A

A con	necting line is a compo	nent of a flowchart.			
Identif	fy two other compone	nts of a flowchart.			
1					
_					
					[2]
Identit	fy one display hardwar	e consideration for a	a Human Computer Int	erface (HCI).	
					[1]
\					
	of these is formatted a (✓) the correct box)	as an alphanumer io	c data type?		
Α	14/04/2021				
В	£10.99				
С	432BJ				
D	Y/N				
					[1]
Which (Tick (n of these is not a seco (✓) <i>the correct box)</i>	ndary research sou	rce?		
A	Book				
В	Interview				
С	Magazine				
D	Website				<u>.</u>
					[1]

Identi	fy one logical storage location.	
Which	ા type of test checks that a system w	vill work on a device screen?
Which	า of these hackers has permission to	o hack into a business computer system?
(Tick	(✓) the correct box)	
Α	Black Hat	
В	Grey Hat	
С	White Hat	
Draw	a line to link the type of social engir	neering to the correct description.
You w	vill only use two types of social engi	neering to complete the task.
	Type of social engineering	Description
	Baiting	
		Criminals promise goods to get the information they need
	Phishing	Criminals use computer
		programs designed to trick a user into buying and downloading unnecessary and dangerous software
	Scareware	and dangerous software

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Turn over

9	Hacke	ers have accessed a business database. Some of the stored data has been deleted	d.
	This is	s an example of? <i>(Tick</i> (✓) <i>the correct box)</i>	
	Α	Data destruction	
	В	Data manipulation	
	С	Data modification	
	D	Data theft	
			[1]
10	Keypa	ads are one physical protection measure.	
	Identi	fy one other physical protection measure.	
			[1]
11	Which	legislation applies to employees using a computer system?	
	(Tick ((✓) the correct box)	
	Α	Copyright, Designs and Patents Act	
	В	Data Protection Act	
	С	Freedom of Information Act	
	D	Health and Safety at Work Act	
			[1]
12		fy one type of distribution channel connectivity that could be used for digital nunications.	
			[1]
13	Comp	lete the sentence.	
	When	talking about the Internet of Everything (IoE), WWW stands for	
			[1]
			r.1

Section B

Monty Bella restaurant has a takeaway service. All meals on the menu can be ordered by customers to takeaway. Customers telephone the restaurant to order their meals. The total cost of the order is calculated by the restaurant. Customers pay for the order using a debit card.

When they order, customers are given an order number and a time when the order will be ready for collection.

14 The orders are handwritten by the restaurant staff. An example of an order is shown in **Fig 1**.

Name	Mia Taylor
Email address	MT901@reur.co.uk
Meals	Beef pie with chips Lasagna Salad
Cost	£18.70
Paid	Y
Order number	2378
Collection time	19:15

Fig.1

(a) Complete the table to show the data types that are used when entering the order onto a computer system. Justify your choice.

	Data Type	Justification
Name		
Cost		
Paid		

[9]

(b)	
(i)	Describe one characteristic of an external solid-state drive that would make it suitable for Monty Bella to store the customer orders.
	[2]
(ii)	Identify one logical storage location that could be used to store the customer orders.

[1]

There have been occasions where customer orders have been mixed up.

	/ Bella is thinking about creating a website where customers can order takeaway meals and
pay o	
(a)	A Human Computer Interface (HCI) will be created as part of the website.
(i)	Explain the purpose of a Human Computer Interface (HCI).
	[2
(ii)	Customers of Monty Bella could use the HCI using the keyboard interaction method.
	in one advantage and one disadvantage to the customers of using a keyboard to interact ne HCl.
Advar	ntage
Disad	vantage
	[4]
(iii)	Identify one other interaction method that could be used with the HCI
()	identity and other interaction metrica that could be about with the free

[1]

that customers can order through the Monty	Bella website.			
Explain why a limited choice validation tool w meals.	ill reduce errors w	hen custome	rs are orderin	g

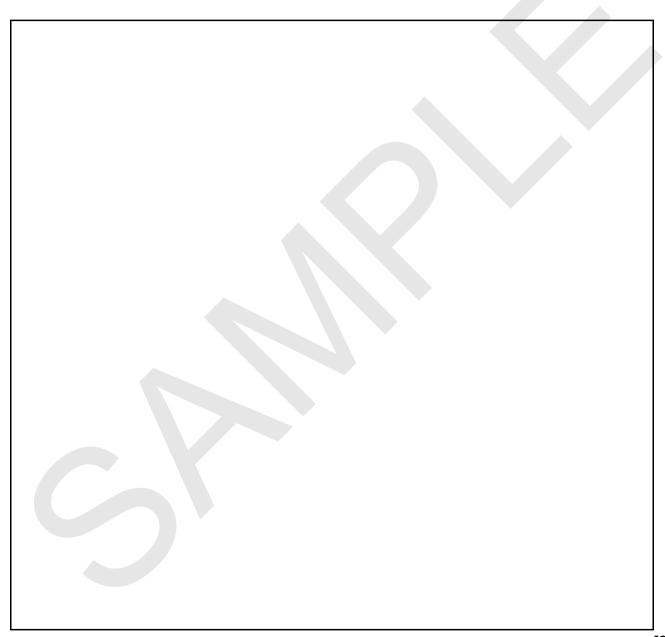
[2]

A validation tool that limits the user choice could be applied to the quantity of each meal

(c) Create a mind map to plan the content for the homepage of Monty Bella's new takeaway website.

Marks will be awarded for:

- Content
- Layout



[8]

The	Monty Bella website has now been created.	
(a)	User testing has been carried out.	
	Explain why user testing should be carried out on the Monty Bella website.	
		[2]
		L
	aflet has been created to advertise the takeaway service of Monty Bella restaurant. The let will be distributed by email to existing customers.	
(b)	Explain one advantage to the Monty Bella restaurant of using a leaflet to advertise the takeaway service.)
		[2]
(c)	Explain one disadvantage to the customers of distributing the leaflet by email.	
		 [2]

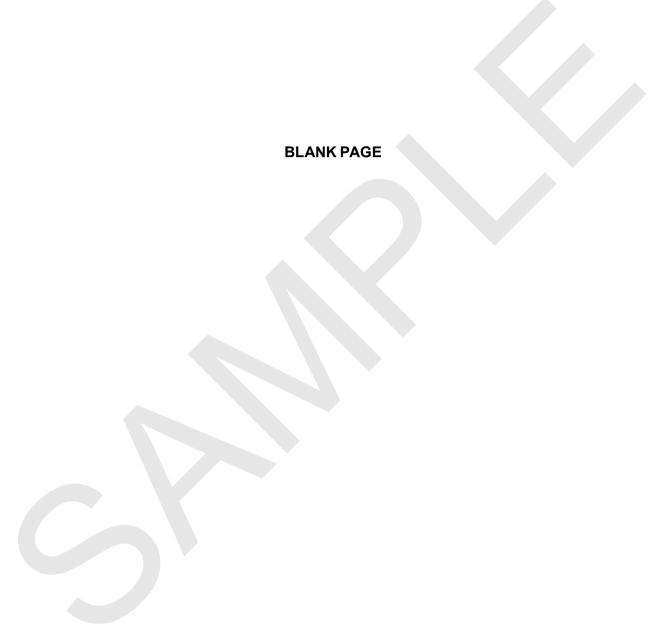
	tomers have to register to use the takeaway website. To register, customers need to inpur details including name, address, a phone number and payment details.	t
The	customer details are stored by Monty Bella restaurant.	
(a)	Identify the legislation that relates to the storing of customer details.	
••••		 [1]
(b)	Identify two actions that need to be taken by the restaurant to comply with the legislatio	n.
		 [2]
Mor	nty Bella restaurant is concerned about the security of the website.	
(c)	When a customer registers for the website, the customer must create a username and password.	
	Explain how the usernames and passwords will increase the security of the website.	
		[2]
(d)	The restaurant has been advised to install a firewall.	
	Explain how a firewall will increase the security of the Monty Bella website.	
••••		 [2]

18	Monty Bella restaurant wants to collect feedback from its customers about the takeaway service
	An online survey will be used to collect the feedback from the customers.
	Explain one advantage and one disadvantage to the restaurant of using an online survey to collect the data.
	Advantage
	Disadvantage

[4]

D to	iscuss the advantages and disadvantages to the restaurant of using a smart device connected to the Internet of Everything.
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•••	
• •	
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SAMPLE ASSESSMENT MATERIAL (SAM)

OCR Level 1 / 2 Cambridge National in IT

R050/01 IT in the digital world

MARK SCHEME

Duration: 1 hour 30 minutes

MAXIMUM MARK 70

Version: 4 Last updated: 09/11/22

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This document consists of 11 pages

Crossed Out Responses

If a student has crossed out a response and written a clear alternative response, then the crossed out response is not marked. If no alternative is given, examiners will give students the benefit of the doubt and mark the crossed out response if it is legible.

Multiple Choice Question Responses

When a multiple choice question has only a single, correct response and a student gives two responses (even if one of these responses is correct), no mark will be awarded, as it is not possible to determine which was the first response selected.

Contradictory Responses

When a student provides contradictory responses, no mark will be awarded, even if one of the answers is correct.

Short Answer Questions (usually worth only one mark per response)

If a student needs to give a set number of short answer responses, but gives more, only the set number of responses will be marked. The response space will be marked from left to right on each line and then line by line until the required number of responses have been marked. The remaining responses will not be marked.

Short Answer Questions (worth two or more marks)

If a student is required to provide a description of, say, three items or factors and four items or factors are provided, then marking will be similar to the above example (but downwards).

Longer Answer Questions

If a student provides two (or more) responses to a medium or high tariff question which only needs a single (developed) response, and does not cross out the first response, the first response will be marked.

Levels of response marking

- a. **To determine the level** examiners will start at the highest level and work down until they reach the level that matches the answer
- b. To determine the mark within the level, they will consider the following:

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

2

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Qu	estion	Answer	Mark	Guidance
1		 Start point (1) End / finish point (1) Decisions (1) Processes (1) Direction of flow (1) 	2 x 1	Two from list These are the only answers that can be credited with marks.
2		Type (1)Size (1)	1	One from list These are the only answers that can be credited with marks.
3		• C - 432BJ (1)	1	Correct Answer Only (CAO)
4		B – Interview (1)	1	CAO
5		• Cloud (1)	1	CAO
6		Technical	1	CAO
7		C – White Hat	1	CAO
8		 Baiting – Criminals promise goods to get the information they need (1) Scareware - Criminals use computer programs designed to trick a user into buying and downloading unnecessary and dangerous software. (1) 	2 x 1	CAO

	uestion Answer	Mark	Guidance
9	• A – data destruction	1	CAO
10	 Biometric device (1) Firewalls (1) RFID (1) Secure backup (1) 	1	One from list for one mark. These are taken from the unit specification Do not accept keypads as these are given in the question.
11	D - Health and Safety at Work Act	1	CAO
12	 4G/5G (1) Bluetooth (1) Mobile (wi-fi) hotspot (1) Wi-fi (1) Wired (1) 	1	One from list for 1 mark These are taken from the unit specification
13	World Wide Web (1)	1	CAO

C	uestio	n	Answer	Mark	Guidance	
14	(a)		Up to 3 marks for each data type and justification: Name Text (1st) any type of character can be used (1) names are usually only letters (1) Award credit for any other suitable response Cost Currency (1st) as the £ sign is shown (1) there are two decimal places / pence are shown (1) Award credit for any other suitable response Paid Boolean (1st) there are only two choices (1) The answer can only be yes or no / paid or not paid (1) Award credit for any other suitable response	3 x 3	1st mark for each valid data type identified up to a maximum of 3 data types. 2 marks for justification of each data type identified. Do not accept marks for the justification without the data type being awarded a mark.	
14	(b)	(1)	 A description of a characteristic and why this is suitable for Monty Bella. No moving parts (1) so Monty Bella can access the customer orders faster than on an external hard drive (1) Can have a large capacity (1) so Monty Bella can store more customer orders without having to buy extra storage devices (1) Can be removed from a digital device (1) and kept in a secure location to increase security of MB customer details (1) Award credit for any other suitable response 	2	Up to 2 marks for a description of a characteristic and why this makes the drive suitable for Monty Bella to store the customer orders.	

C	Question		Answer	Mark	Guidance
14	(b)	(ii)	• Cloud (1)	1	
15	(a)	(i)	 The purpose of an HCI: To allow interaction (1) between the user / customer and the software (1) To allow the input and output (1) of data / order details (1) Award credit for any other suitable response 	2	Up to 2 marks for the purpose of an HCI. Accept examples relevant to context for order details e.g. meals needed, customer name
15	(a)	(ii)	An explanation of an advantage and disadvantage of the use of a keyboard: Advantage Customers will have increased confidence in using the HCl (1) because they will be familiar with keyboard (input method)(1) Movement around the HCl can be completed (1) as shortcut keys can be used / example e.g. Tab (1) Data entry can be checked (1) in real time by the customer (1) Verification check can be completed as order is entered (1) as data entered appears on the screen simultaneously (1) Award credit for any other suitable response Disadvantage If customers are unfamiliar with a keyboard (input method)(1) placing their order may be slow (1) Customers may struggle to interact with the HCl (1) as they may have limited use of hands / fingers / wrists (1) Award credit for any other suitable response	2 x 2	2 marks for explaining each advantage and disadvantage up to a maximum of 4 marks.

ınıı R	U5U/U						ivia	rk Scheme		SA
15	(a)	(iii)	• M • To	esture (1) louse (1) ouch (1) oice (1)					1	One from list for 1 mark These are taken from the unit specification
15	(b)		• Co (1 nu • Ra	ustomers han be reducing the solution is solved the solution is solved the solutions in eck that the	ave to s ig the c red (1) s next to corder	elect a nu hance of o the num is correct		lrop down list efine the rovide a visual	2	Up to 2 marks for a complete explanation of why a limited choice validation tool will reduce user errors
15	(c)		4 marks 3 marks 2 marks 1 mark	More than 1 clear sub- node 1 clear sub - node At least 2 nodes Basic structure	+	4 marks 3 marks 2 marks 1 mark	Most relevant content Some relevant content Limited relevant content	Total L3 = 7 or more marks L2 = 3 - 6 marks L1 = 1-3 marks	8	Mark layout and content separately and add marks together to get level and total mark for question. Indicative content: Colour scheme (annotated) House style Logo Help message Error messages Buttons for navigation Search facility Contact details of restaurant

		main continu		0.1
16	(a)	 An explanation of why user testing should be carried out: To check the user journey through the Monty Bella website is error free (1) so the user experience of the Monty Bella website is positive (1) To make sure that the website responds to user interactions (1) as required by Monty Bella clients requirements (1) To identify any errors in the customers use of the system (1) so remedial action can be taken before the Monty Bella website goes live (1) Award credit for any other suitable response 	2	2 marks available for an explanation of why user testing should be carried out
16	(b)	 An explanation of one advantage of using a leaflet: An existing template can be used (1) to maintain consistency of presentation of information (1) The house style of Monty Bella restaurant / takeaway service can be used (1) to ensure customer familiarity / recognition (1) A range of features / text and graphics can be included (1) to provide information for different demographic groups of customers (1) Award credit for any other suitable response 	2	2marks available for an explanation of one advantage of using a leaflet. The focus of the question is on the restaurant advertising the takeaway service.
16	(c)	 An explanation of one disadvantage of using email: If the leaflet is sent as an attachment (1) it may go into the spam / junk folder because of the ISP rules (1) If the leaflet is embedded into the body of the email (1) the size of the email may be too large to be delivered (1) Award credit for any other suitable response 	2	2 marks available for an explanation of one disadvantage of using email to distribute the leaflet. The focus of the question is on the customers receiving the leaflet by email.
17	(a)	Data Protection Act / DPA (1)	1	CAO The date of the Act does not have to be provided or ignore if incorrect

				·
17	(b)	 Any two actions from list: Customer details must be kept secure (1) Customers details must be deleted if requested (1) Customer details must be kept up to date (1) Changes in customer details must be actioned (1) Customers must be told what their data is being used for (1) Award credit for any other suitable response 	2 x 1	Two actions from list for one mark each This can be awarded marks if the answer to Q17 (a) is incorrect
17	(c)	 An explanation of how usernames & passwords increase security: The username authenticates the user (1) when a valid password needs to be entered (1) The username & password restricts access to the website (1) without a valid username and correct password access will be denied (1) Award credit for any other suitable response 	2	Up to 2 marks for a complete explanation of how a username & password will increase security of the takeaway ordering website
17	(d)	 An explanation of how a firewall will increase security: Will block access to the Monty Bella website (1) if the predefined rules are not met (1) Will establish a barrier between the Monty Bella website and the internet / WWW (1) by monitoring incoming/outgoing traffic (1) Award credit for any other suitable response 	2	Up to 2 marks for a complete explanation of how a firewall will increase security

Unit Rubu/u i	Mark Scheme	•		SAIV
18	An explanation of an advantage and disadvantage of the use of an online survey:	2 x 2	2 marks for explaining each advantage and disadvantage up to a maximum of 4 marks.	
	 Advantage Large numbers of customers (1) can be asked to complete the survey (1) Cheaper than interviews (1) for large numbers of customers (1) All the responses (1) will be in the same format (1) Comparisons of the results (1) are easy to formulate (1) A range (1) of different types of questions can be included (1) Award credit for any other suitable response Disadvantage Access to the internet is needed (1) to send the survey to customers / receive the customer responses (1) The survey needs to be carefully designed (1) to get the data required (1) Questions (1) need to be clearly worded (1) Award credit for any other suitable response 		The focus of the question is the restaurant.	

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19 Indicative content Advantages Increase access to information on the internet Better communication - Messages can be left for staff Reminders can be set Voice commands can be used Apps can be accessed e.g. new recipes can be found • Multiple devices can be connected to provide communication in the workplace. • If the smart device has a screen, then multimedia content can be accessed e.g. videos of how to cook recipes Voice recognition to tailor content to specific users • Food supplies can be monitored and automatically ordered from suppliers • Heating etc can be controlled by the device meeting pre-set user limits

9 Band 3: [7-9 marks]

A thorough discussion showing detailed knowledge and understanding of more than one advantage AND disadvantage to the restaurant of using a smart device connected to the IoE.

Relevant and appropriate examples are given.

Consistently used appropriate terminology.

Any relevant consideration of an advantage AND disadvantage is sufficient for bottom of mark band.

Band 2: [4-6 marks]

An adequate discussion showing some knowledge of at least one advantage AND one disadvantage to the restaurant of using a smart device connected to the IoE.

Some relevant examples are provided although these may not always be appropriate.

Some use of appropriate terminology.

Any relevant consideration of an advantage or disadvantage is sufficient for bottom of mark band.

Band 1: [1-3 marks]

A brief discussion showing limited knowledge and understanding relevant to the use of a smart device.

Little or no use of appropriate terminology.

0 marks

No response worthy of credit.

Disadvantages

- Security needs to be strong to stop unauthorised access / hackers
- Devices from different manufacturers may not be compatible
- Devices cannot be used if there is no internet access
- If the device loses power, then all devices controlled may return to factory settings - e.g. heating may not come on at specified times / to temperature set
- Decrease in privacy