

Cambridge Assessment International Education

Cambridge International General Certificate of Secondary Education

CANDIDATE NAME						
CENTRE NUMBER			CANDID/ NUMBEF	I		

INFORMATION AND COMMUNICATION TECHNOLOGY

0417/12

Paper 1 Theory February/March 2019

2 hours

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your centre number, candidate number and name in the spaces at the top of this page and on any additional pages you use.

Write in dark blue or black pen.

Do not use staples, paper clips, glue or correction fluid.

DO **NOT** WRITE IN ANY BARCODES.

No marks will be awarded for using brand names of software packages or hardware. Answer all questions.

Any businesses described in this paper are entirely fictitious.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

This syllabus is regulated for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.



This document consists of **16** printed pages.

1 For each of the different statements, tick the most appropriate network.

	WAN (✓)	WLAN (✓)	LAN (✓)
A cabled network used in one building.			
The internet is an example of this type of network.			
Several networks connected together using a router.			
This network is connected without cables.			

[4]

2 Tick whether the following are examples of **System Software** or **Applications Software**.

	System Software (√)	Applications Software (√)
Compiler		
Word processing software		
Spreadsheet software		
Operating system		

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1	~ I
r.	

3 Command Line Interface (CLI) and Graphical User Interface (GUI) are examples of interfaces found in computer systems.

Give two advantages of a computer having a GUI rather than a CLI.	
1	
2	
	[2

4	A router is used in networks.						
	Describe how a route	er routes data packets.					
				[3]			
5	An office worker is a	bout to open an attachment b	out is worried it might co	ntain a computer virus.			
	Explain what is mean	nt by a computer virus.					
				[2]			
6	Circle three items w	hich are used as output devic	es.				
	Buzzer	CD/RW drive	Keyboard	LCD monitor			
	Speaker	Solid state drive	Trackerball	Web cam			
				[3]			

7 The Tawara Tea Company supplies tea to its customers. The company has created a spreadsheet to help its sales team to keep track of its orders.

The spreadsheet has two worksheets, named Products and Orders. Part of the spreadsheet is shown below.

All prices and costs are displayed in Indian Rupee ₹.

Worksheet: Products

	А	В	С
1	Tea code	Product name	Price per unit
2	272	Singbulli Champagne Oolong	₹16.00
3	347	Phuguri Supreme	₹16.00
4	348	Tumsong Supreme	₹16.00
5	349	Pussimbing Supreme	₹16.00
6	3	Phuguri	₹8.50
7	5	Goomtee	₹8.00
8	6	Risheehat	₹6.40
9	7	Makaibari Organic	₹4.90
10	8	Bannockburn	₹5.00
11	9	Chamong Organic	₹4.00

Worksheet: Orders

	Α	В	С	D
1	Order ID	Tea code	Quantity ordered	Cost
2	124	272	24	
3	124	348	25	
4	124	6	105	
5	124	9	120	
6	124	349	30	
7	125	3	225	
8	125	5	220	
9	125	6	200	

A salesman needs to create a formula to be placed in cell D2, in the Orders worksheet, that finds the Price per unit of the tea, multiplies it by the Quantity ordered and then displays the result.

(a)	cell D9.	/II to
	=	
		. [8]

The salesman has created a new worksheet called Receipt which automatically produces a receipt for each order.

Worksheet: Receipt

	А	В	С	D	Е
1	Order ID	Tea code	Product name	Quantity ordered	Cost
2	124	272	Singbulli Champagne Oolong	24	₹384
3		348	Tumsong Supreme	25	₹400
4		6	Risheehat	105	₹672
5		9	Chamong Organic	120	₹480
6		349	Pussimbing Supreme	30	₹480
7				Total	₹2416

(b)	Rupees as sh			·	·		
		•••••	 •••••			 •••••	
							[3.

A dr	A drone is a remote controlled flying vehicle. A drone is being used to monitor floods in Mumbai.							
(a)	Cor		g sentences,	using the most appropria	te word or words from the lis	st		
		buzzer	joystick	monitor	pressure sensor			
		ROM	speaker	temperature sensor	video camera			
	(i)	The drone is micr	oprocessor co	ntrolled with input from a				
					[1]		
	(ii)	Images of the floo	ods are capture	ed using a				
					[1]		
	(iii)	The images sent	from the drone	e are displayed on a				
					[1]		
(b)		ne three advantag nually.	es of using a c	drone to monitor the floods	s rather than collecting the dat	ta		
	1							
	2							
	3							
					[3]		

9 Aadhya and her family are planning a visit to the Gir National Park and she is creating a web page about the destination.

She has started writing some of the HTML but has made some mistakes.

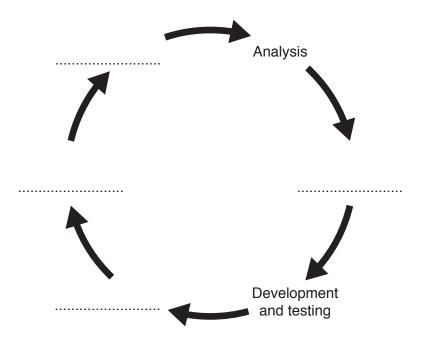
```
<!-- Visit to Gir National Park -->
<head>
</head>
<title>The Gir National Park</title>
<body>
<img src="GIRNP.JPG" width="50" alt="image of an elephant">
The Gir National Park</h1>
<h3>A National Park of Gujarat</h3>
<img scr="GIR-LOGO.JPG" alt="Logo for Gir National Park">
This webpage is under construction.
</body>
</html>
Write down four mistakes which would prevent this markup from working properly. Your answers
must be different in each case.
2.....
3......
                                                [4]
```

0		electric bus system is being considered for New Delhi. Passengers will use smart cards to rel on the bus. They will have to add money to their smart card before they can travel.
	(a)	Compare and contrast the use of smart cards rather than using cash to pay for a journey.
		[6]
		e new electric bus system will help to reduce the air pollution in the city. Sensors are used in the tem.
	(b)	Name a sensor that could be used to detect high levels of air pollution.
		[1]

(c)	The sensor monitors the air pollution. When the air pollution reaches a certain limit, a mess is displayed on a street sign in the city to warn pedestrians and road users.	age
	Describe the computer processing involved in this system.	
		[4]
(d)	Data from the sensor needs to be converted from analogue to digital before it is processed	∍d.
	Explain the need for this conversion.	
		[2]

11 The systems life cycle is shown. The Design, Evaluation, Documentation and Implementation stages are missing.

Write these stages into their correct places.



[4]

12 Tawara High School has developed a new computerised system to timetable lessons and

/ -\	
(a)	Discuss the advantages and disadvantages of using direct changeover compared with parallel running as a method of implementing the system.
	In your answer name the method you would use, giving reasons for your choice.
	[
(b)	Describe four advantages of using computerised timetabling systems.
	1
	2
	3
	4

13	-	mpting to replace Aayush's hand with a prosthetic hand.
	Exp	lain how the surgeon would use a 3D printer to create the prosthetic hand.
	••••	
		[4]
11	Λct	udent has handed in her homework. One of the incorrect answers she gave was that engruntion
14		udent has handed in her homework. One of the incorrect answers she gave was that encryption ld be used to stop an unauthorised person accessing a computer system.
	(a)	Explain what is meant by encryption and why it is used.
		[4]
	(b)	Identify a method which would help to prevent unauthorised access to a computer.
		[1]

)	Geographic information Systems (GIS) use satellities.
	Describe, using an example, how GIS can be used.
	15

16	A programmer is developing a presentation of a new ICT solution for a conference and needs to consider the audience.			
	(a)	Using examples, explain why presentations and ICT solutions have to take into account the type of audience.		
		[4]		
	(b)	The programmer is concerned that the software used for the presentation will be copied by the participants during the conference.		
		Describe how the software could be protected from illegal copying.		
		[4]		

17	Repetitive Strain Injury (RSI) is one of the health problems associated with the prolonged use computers.		
	(a)	Describe RSI and what causes it.	
	(b)	State two strategies for preventing RSI.	
	(15)		
		[O]	

18

Smartphones are being increasingly used by tourists when travelling overseas.
Discuss, using examples, the benefits and drawbacks of the use of smartphones by tourists.
101

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