Cambridge International AS & A Level

Cambridge Assessment International Education Cambridge International Advanced Subsidiary and Advanced Level

INFORMATION TECHNOLOGY

9626/02 May/June 2018

Paper 2 Practical MARK SCHEME Maximum Mark: 110

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the May/June 2018 series for most Cambridge IGCSE<sup>™</sup>, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

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#### **Generic Marking Principles**

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

**GENERIC MARKING PRINCIPLE 3:** 

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

### GENERIC MARKING PRINCIPLE 5:

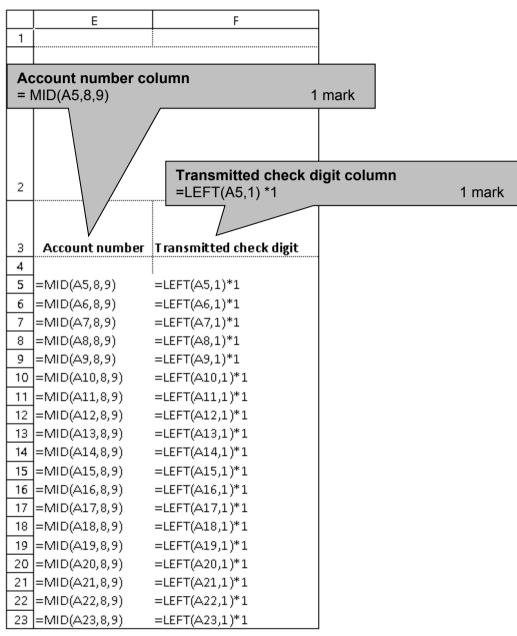
Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

#### GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

MID fu Relativ Select	<b>ligits column</b> nction used with correct brackets ve cell reference to column A (cell A5) ing from the 17th character from the start ing 8 characters	1 markDATE fu1 markRIGHT1 markFrom co1 markSelectin	transaction column unction used with correct brace year: function used blumn B (cell B5) g 4 characters month:	ckets 1 mark 1 mark 1 mark 1 mark 1 mark	D	
			ction used	1 mark		
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			g from the 3rd character fron			
			g 2 characters	1 mark		
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2			blumn B (cell B5)	1 mark		
			g 2 characters	1 mark		
	I N		~		J	
3	Date d	ligits	Date of transaction		Bank sort code	
4					- /	
			5,4),MID(B5,3,2),LEFT(B5,2))		D(A5, 4, 2)&"-"&MID(A5, 6, 2)	
6	······		6,4),MID(B6,3,2),LEFT(B6,2))		D(A6, 4, 2)&"-"&MID(A6, 6, 2)	
7			7,4),MID(B7,3,2),LEFT(B7,2))		D(A7, 4, 2)&"-"&MID(A7, 6, 2)	
8			8,4),MID(B8,3,2),LEFT(B8,2))	1	D(A8, 4, 2)&"-"&MID(A8, 6, 2)	
9			9,4),MID(B9,3,2),LEFT(B9,2))	1	D(A9, 4, 2)&"-"&MID(A9, 6, 2)	~
			10, 4), MID(B10, 3, 2), LEFT(B10, 2))		11D(A10,4,2)&"-"&MID(A10,6	· 1
			11, 4),MID(B11,3,2),LEFT(B11,2)) 12, 4),MID(B12,3,2),LEFT(B12,2))		11D(A11,4,2)&"-"&MID(A11,6 11D(A12,4,2)&"-"&MID(A12,6	
			13,4),MID(B13,3,2),LEFT(B13,2))		11D(A13,4,2)& - &MID(A12,6 11D(A13,4,2)&"-"&MID(A13,6	
			14,4),MID(B14,3,2),LEFT(B14,2))		10(A13,4,2)&"-"&MID(A14,6)	
	·····		15,4),MID(B15,3,2),LEFT(B15,2))	=MID(A15,2,2)&	A15, 4, 2)&"-"&MID(A15,6	
		· · · · · · · · · · · · · · · · · · ·	16,4),MID(B16,3,2),LEFT(B16,2))	=MID(A1	p(A16, 4, 2)&"-"&MID(A16, 6	· ·
	······				· · · · ·	)-/
				Bank sort code colu =MID(A5,2,2)	imn	1 mark
				Concatenate with (or	8.)	1 mark
	••••••••••••••••••••••••••••••••••••••				α)	1 mark
21				Concatenate with (or	&)	1 mark
22	214010193304590916012018C184107 =MID(4			MID(A5,4,2)	~)	1 mark
23	336366942777110416012018D21800 =MID(4	A23,17,8) =DATE(RIGHT(B		2 concatenates arour	nd "-"	1 mark
				MID(A5,6,2)		1 mark

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	G	
1		
	Transactions for account: 000966543	
	between 14 January 2018 Calculated check digit column	
2	and 19 January 2018 =RIGHT(,1) 9 separate functions each containing	1 mark 1 mark
	MID function referenced to column E (E5) returning a single character each time	1 mark 1 mark
	with each of the 9 characters added	1 mark
3	Calculated check digit *1 / value / or equivalent to ensure numeric calculation	1 mark
4		
5	=RIGHT(MID(E5,1,1)+MID(E5,2,1)+MID(E5,3,1)+MID(E5,4,1)+MID(E5,5,1)+MID(E5,6,1)+MID(E5,7,1)+MID(E5,8,1)+MID(E5,9,1),1)*1	
6	RIGHT(MID(E6,1,1)+MID(E6,2,1)+MID(E6,3,1)+MID(E6,4,1)+MID(E6,5,1)+MID(E6,6,1)+MID(E6,7,1)+MID(E6,8,1)+MID(E6,9,1),1)*1	
7	=RIGHT(MID(E7,1,1)+MID(E7,2,1)+MID(E7,3,1)+MID(E7,4,1)+MID(E7,5,1)+MID(E7,6,1)+MID(E7,7,1)+MID(E7,8,1)+MID(E7,9,1),1)*1	
8	=RIGHT(MID(E8,1,1)+MID(E8,2,1)+MID(E8,3,1)+MID(E8,4,1)+MID(E8,5,1)+MID(E8,6,1)+MID(E8,7,1)+MID(E8,8,1)+MID(E8,9,1),1)*1	
9	=RIGHT(MID(E9,1,1)+MID(E9,2,1)+MID(E9,3,1)+MID(E9,4,1)+MID(E9,5,1)+MID(E9,6,1)+MID(E9,7,1)+MID(E9,8,1)+MID(E9,9,1),1)*1	
10	=RIGHT(MID(E10,1,1)+MID(E10,2,1)+MID(E10,3,1)+MID(E10,4,1)+MID(E10,5,1)+MID(E10,6,1)+MID(E10,7,1)+MID(E10,8,1)+MID(E10,9,1),1)*1	
11	RIGHT(MID(E11,1,1)+MID(E11,2,1)+MID(E11,3,1)+MID(E11,4,1)+MID(E11,5,1)+MID(E11,6,1)+MID(E11,7,1)+MID(E11,8,1)+MID(E11,9,1),1)*1	
12	RIGHT(MID(E12,1,1)+MID(E12,2,1)+MID(E12,3,1)+MID(E12,4,1)+MID(E12,5,1)+MID(E12,6,1)+MID(E12,7,1)+MID(E12,8,1)+MID(E12,9,1),1)*1	
13	RIGHT(MID(E13,1,1)+MID(E13,2,1)+MID(E13,3,1)+MID(E13,4,1)+MID(E13,5,1)+MID(E13,6,1)+MID(E13,7,1)+MID(E13,8,1)+MID(E13,9,1),1)*1	
14	RIGHT(MID(E14,1,1)+MID(E14,2,1)+MID(E14,3,1)+MID(E14,4,1)+MID(E14,5,1)+MID(E14,6,1)+MID(E14,7,1)+MID(E14,8,1)+MID(E14,9,1),1)*1	
15	RIGHT(MID(E15,1,1)+MID(E15,2,1)+MID(E15,3,1)+MID(E15,4,1)+MID(E15,5,1)+MID(E15,6,1)+MID(E15,7,1)+MID(E15,8,1)+MID(E15,9,1),1)*1	
16	=RIGHT(MID(E16,1,1)+MID(E16,2,1)+MID(E16,3,1)+MID(E16,4,1)+MID(E16,5,1)+MID(E16,6,1)+MID(E16,7,1)+MID(E16,8,1)+MID(E16,9,1),1)*1	
17	=RIGHT(MID(E17,1,1)+MID(E17,2,1)+MID(E17,3,1)+MID(E17,4,1)+MID(E17,5,1)+MID(E17,6,1)+MID(E17,7,1)+MID(E17,8,1)+MID(E17,9,1),1)*1	
	=RIGHT(MID(E18,1,1)+MID(E18,2,1)+MID(E18,3,1)+MID(E18,4,1)+MID(E18,5,1)+MID(E18,6,1)+MID(E18,7,1)+MID(E18,8,1)+MID(E18,9,1),1)*1	
	=RIGHT(MID(E19,1,1)+MID(E19,2,1)+MID(E19,3,1)+MID(E19,4,1)+MID(E19,5,1)+MID(E19,6,1)+MID(E19,7,1)+MID(E19,8,1)+MID(E19,9,1),1)*1	
	=RIGHT(MID(E20,1,1)+MID(E20,2,1)+MID(E20,3,1)+MID(E20,4,1)+MID(E20,5,1)+MID(E20,6,1)+MID(E20,7,1)+MID(E20,8,1)+MID(E20,9,1),1)*1	
	=RIGHT(MID(E21,1,1)+MID(E21,2,1)+MID(E21,3,1)+MID(E21,4,1)+MID(E21,5,1)+MID(E21,6,1)+MID(E21,7,1)+MID(E21,8,1)+MID(E21,9,1),1)*1	
	=RIGHT(MID(E22,1,1)+MID(E22,2,1)+MID(E22,3,1)+MID(E22,4,1)+MID(E22,5,1)+MID(E22,6,1)+MID(E22,7,1)+MID(E22,8,1)+MID(E22,9,1),1)*1	
23	=RIGHT(MID(E23,1,1)+MID(E23,2,1)+MID(E23,3,1)+MID(E23,4,1)+MID(E23,5,1)+MID(E23,6,1)+MID(E23,7,1)+MID(E23,8,1)+MID(E23,9,1),1)*1	

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Н			J	К	L					
Working 1 column	1	<u> </u>								
=IF( ) with correct syntax	1	mark								
Column F <> Column G 1 mark										
Display some form of error fla	ia 1	mark								
Trans	saction colum	ı								
	(A5,25,1)	•	1	mark						
	(, ie, <u>2</u> e, i)		•							
3 Working 1	Transaction	Workin	g 2	Cr	edit Debit					
4										
5 =IF(F5<>G5,"Error","")	=MID(A5,25,1)	=RIGHT(	A5,LEN(A5)-25)	=IF(I5="C",J5/100,"")	=IF(I5="D",J5/100,"")					
6 =IF(F6<>G6,"Error","")	=MID(A6,25,1)		A6,LEN(A6)-25)	=IF(I6="C",J6/100,"")	=IF(I6="D",J6/100,"")					
7 =IF(F7<>G7,"Error","")	=MID(A7,25,1)		A7,LEN(A7)-25)	=IF(I7="C",J7/100,"")	=IF(I7="D",J7/100,"")					
8 =IF(F8<>G8,"Error","")	=MID(A8,25,1)		A8,LEN(A8)-25)	=IF(I8="C",J8/100,"")	=IF(I8="D",J8/100,"")					
9 =IF(F9<>G9,"Error","")	=MID(A9,25,1)		A9,LEN(A9)-25)	=IF(I9="C",J9/100,"")	=IF(I9="D",J9/100,"")					
10 =IF(F10<>G10,"Error","")	=MID(A10,25,1)		A10,LEN(A10)-25)	=IF(I10="C",J10/100,"						
11 =IF(F11<>G11,"Error","")	=MID(A11,25.1)	AT(	A11,LEN(A11)-25)	=IF(I11="C",J11/100,"						
		<u> </u>	LEN(A12)-25)	=IF(I12="C",J12/100,"						
Working 2 column		1	LEN(A13)-25)	=IF(I13="C",J13/100,"						
=RIGHT(A5		1 mar	. [LLIN(AL4)-23)	=IF(I14="C",J14/100,"						
,LEN(A5)		1 mar		=IF(I15="C",J15/100,"						
-25)		1 mar		=IF(116-100,''						
17 =IF(F17<>G17,"Error","")	=MID(A17.25.1)		Δ1.7.LEN(Δ1.7)	<u>∠"C". 11 7/1</u> 00,'"						
18 =IF(F18<>G18,"Error","")	Credit colum	าท		00,'''						
19 =IF(F19<>G19,"Error","")	=IF(I5="C"			<b>1 mark</b> 00,'''						
20 =IF(F20<>G20,"Error","")	,J5/100			1 mark 00,"						
21 =IF(F21<>G21,"Error","")	,"")			1 mark 00,"						
22 =IF(F22<>G22,"Error","")	-10110(-22,23,1)		~~ <u>~</u> ~~,		<u></u>					
23 =IF(F23<>G23,"Error","")	=MID(A23,25,1)	=RIGH	Debit column		(100,"")					
			= IF(I5="D",J5/10	)0,"")	1 mark					
			Replication of all	formulae	1 mark					

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	0	Р	Q
1			
2			
3	1	261554	Royal Bank of Tawara
4			First Finance Bank
5	3	261544	SSB
б	4	341254	HBSB
7	5	340121	Santrander
8	6	261577	National Bank of LLaregrebb
9	7	140101	Queens Bank
10	8	363669	GBS

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4 Rows inserted in correct place1 mark186title.csv placed in rows 2 and 31 markCells B2:L2 merged1 markRow 2 - >=24 point sans serif font1 markDates extracted & added1 markDates in title in long date format1 mark						A Cano G	lidate ZZ999	9999	J	К	L
			Tran	sactio	ns for a	accou	nt: 00	096654	43		
				betw	een 14	1 Janu	ary 20	018			
2				an	id 19 Ja	anuary	/ 2018	3			
1 1	Date digits	Date of transaction	Bank sort code	Account number	Transmitted check digit		Working 1	Transaction	Working 2	Credit	Debit
4							•				
		14 January 2018			8	8		С	4251	\$42.51	4
		14 January 2018			1	1		D	125400	400.00	\$1,254.00
		15 January 2018 15 January 2018			1 5	-		с с	6500 564212	\$65.00 \$5,642.13	
		15 January 2018			5 2	2			564213 168573	ŞJ,642.13	\$1,685.73
		Date of transac			2	Trar	 smitted cl	heck digit co			<u> </u>
		In format 12 Jai			1 marl		es correct s			1 m	ark 958.07
12	15012018	15 Jany	56-36-69	489331463	1	1		C C	309855	\$3,098.55	
13	15012018	15 Janaary 2018	26-15-54	623718361	7	7		С	43554	\$435.54	
$ \rightarrow $		15 January 2018			9	9		С	109958	\$1,099.58	
		15 January 2018			2	2		С	9094	\$90.94	
		15 January 2018			0	0		С	403445	\$4,034.45	4
		15 January 2018			9	9		D	424752		\$4,247.52
		15 January 2018			6	6		D	313104		\$3,131.04
		15 January 2018 15 January 2018			7	7 1		D C	14137 3500	\$35.00	\$141.37
1 207	113017018	To Damuary 2018	34-01-21	400201101	1	T		C			
	15012010	15 January 2019	26-15-44	337558792	3	3		C C	122275	\$1,222,75	
21		15 January 2018 16 January 2018			3 2	з 2		с с	122275 184107	\$1,222.75 \$1,841.07	

						Row 3						
	С	D	E	К	L	Row 3						
1						Colum						
	Transa	actior	ns for	ассог	int:	Correc						
	000966543											
	between 14 January 2018											
2			anuary	•								
	unu		in a an i	,	_							
3	Date of transaction	Bank sort code	Account number	Credit	Debit							
4	Gunjaction	couc	number	creak	Debit							
5	14 January 2018	26-15-54	019525547	\$42.51								
6	14 January 2018	26-15-77	352145687	·	\$1,254.00							
7	15 January 2018	26-15-44	012548524	\$65.00								
8	15 January 2018	34-12-54	362791304	\$5,642.13								
9	15 January 2018	34-01-21	012052967		\$1,685.73							
10	15 January 2018	26-15-77	736513307	\$1,395.43								
11	15 January 2018	14-01-01	859627842		\$3,958.07							
12	15 January 2018	36-36-69	489331463	\$3,098.55								
13	15 January 2018	26-15-54	623718361	\$435.54								
14	15 January 2018	26-15-44	423590952									
15	15 January 2018	34-12-54	555582543	\$90.94								
16	15 January 2018	36-36-69	246791290	\$4,034.45								
17	15 January 2018	36-36-69	056999957		\$4,247.52							
18	15 January 2018	14-01-01	801782857		\$3,131.04							
19	15 January 2018	26-15-44	984468323		\$141.37							
20	15 January 2018	34-01-21	488281181	\$35.00								
21	15 January 2018	26-15-44	337558282	\$1,222.75								
22	16 January 2018	14-01-01	933045909	\$1,841.07								
23	16 January 2018	36-36-69	427771104		\$218.00							

### **Evidence document**

Evaluation:

Six from:

Function will trap some/not all transmission/data corruption errors	1 mark
Function/method are inefficient/may cause errors	1 mark
If two digits transposed then check digit is the same/ can not identify extra zeros	1 mark
The bank sort code (and other data) could be included within the check digit/checksum	1 mark
The use of a checksum (or other appropriate algorithm) would give more reliable error checking	1 mark
Manually checking the spreadsheet for the error message would be a time-consuming process	1 mark
This method changes erroneous data rather than requesting data to be re-sent	1 mark
The method of correction (incorrectly) assumes that the check digit is the error	1 mark
The error may be one or more digits in the account number	1 mark
The method of correction (incorrectly) assumes that the check digit is the error	1 mark
The error may be one or more digits in the account number	1 mark
Retransmission/resending of data would be required/requested	1 mark

Encryption:

Five from:

To scramble/jumble the data (for transmission)	1 mark
Requires an encryption key to encrypt data	1 mark
Requires a private key/decryption key to decrypt data/only the person with the decryption key will be able to use/understand the data	1 mark
To prevent data being understood if intercepted by a hacker	1 mark
It helps to prevent customer's personal data from being seen/used	1 mark
It helps to prevent transaction details/payment details from being seen/used	1 mark
Many banks use 128-bit or 256-bit encryption	1 mark
Some banks use 1024-bit encryption which is more secure than using the SSL in a secure website.	1 mark

1 mark 1 mark

1 mark

### Formatting – Bank\_

	A B	C	D	Data entered as shown
1	The Bank	of Tawara		All formatting and merging as shown Gridlines visible for A1 to C4 only.
-				
2	The ethic	cal global bank		
З				
4	Statement date:			
5				

### Validation - Bank\_

Data Validation	?	×
Settings Input Message Error Alert		
Validation criteria		
Allow:		
Data:		
between 🗸		
<u>S</u> tart date: 01/01/2018		
01/01/2018		
31/12/2018		
Apply these changes to all other cells with the same se	ettings	

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Data Validation		?	×
Settings Input Message Er	ror Alert		
Show error alert after invalid	data is entered		
When user enters invalid data, s	how this error alert: —		
Style:	Iitle:		
Stop 🗸	Data entry error		
	Error message:		
8	You can only enter a o 2D18 that is before to		< >
<u>S</u> lear All	ОК	Cano	el

### Video file Bank\_1\_

Image ratio of software set to 16:9	1 mark
0 seconds: Black title background The Bank of Tawara – 100% accurate top right corner and clearly visible sans serif font good contrast to background appropriate font size Black background and text appear at same time Both placed for 10 seconds	1 mark 1 mark 1 mark 1 mark 1 mark 1 mark 1 mark 1 mark
4 seconds:	1 mark
Add to previous text <b>The ethical global bank</b> added as new line	1 mark
6 seconds:	1 mark
Add to previous text <b>Supporting the Manta   Conservation Project</b>	1 mark
As 2 new lines with identical formatting	1 mark
No adjustment/movement to existing text when new added	1 mark
10 seconds:	1 mark
Clip 186MCP.wmv	1 mark
22 seconds:	1 mark
Snapshot of final frame extracted	1 mark
Snapshot set as background for credits	1 mark
Credits present on right hand side with no overlap for other objects	1 mark
Credits: End at 34 seconds/12 seconds in length Credits include: Filmed by: DiveGBR Location: Huvadhoo Atoll Country: Maldives Produced for: The Bank of Tawara Advertising slogan	1 mark 1 mark 1 mark 1 mark 1 mark 1 mark 1 mark

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Cambridge International AS/A Level – Mark Scheme **PUBLISHED** 

Candidate name and numbers in credits	1 mark
Appropriate blank line(s) as spacing between credits	1 mark
All text is a large easily read font with good contrast	1 mark
Audio file clipped to last 34 seconds	1 mark
Attached to video clip along with existing soundtrack	1 mark
Movie exported / saved with correct filename as Bank_1_	1 mark
In wmv format	1 mark
Video file Bank_2_ Same file exported with correct filename Same file exported in mp4 format	1 mark 1 mark