

## Cambridge International AS & A Level

# INFORMATION TECHNOLOGY Paper 2 Practical MARK SCHEME Maximum Mark: 90 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 2022 series for most Cambridge IGCSE, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

This document consists of 17 printed pages.

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# Cambridge International AS & A Level – Mark Scheme PUBLISHED

#### **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.

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Task	Answer	Marks
See Task 1	below for example of spreadsheet	
1	Rows 1 3 7 Merged cells A to G	1
	Rows 1 and 3 Dark blue background	1
	with yellow text	1
	Row 1 Centre aligned, 36 points high	1
	Row 3 Centre aligned, 22 points high	1
	A5 and C5 Right aligned	1
	A7 Left aligned	1
	All other cells Centre aligned	1
	Rows 2 4 6 ½ height of row 12	1
	Row 8 Text wrapped and vertically aligned	1
	A8:G24 Gridlines (only)	1
	Header Created on: [date] at [time] on left	1
	Filename with no path on right	1
	Footer Created by: name, centre number, candidate number on left	1

Task	Answer	Marks
See Task 2 below for example of formula in cell A9		
2	<b>A9</b> = D5	1

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Task	Answer	Marks
See Task 3	See Task 3 below for example of formulae in column D	
3	<b>D9</b> = VLOOKUP()	1
	(C9	1
	,j22port.csv	1
	!\$A\$3:\$B\$12	1
	,2,0)	1

Task	Answer	Marks	
See Task	See Task 4 below for example of formulae in column B		
4	B9 = IF( ) with correct syntax	1	
	WEEKDAY(A9)	1	
	=	1	
	VLOOKUP()	1	
	nested VLOOKUP()	1	
	C9	1	
	j22port.csv	1	
	!\$A\$3:\$C\$12	1	
	,3	1	
	,0)	1	
	j22port.csv	1	
	!\$A\$14:\$B\$20	1	
	2,0)	1	
	,A9+1	1	
	,A9)	1	

Task	Answer	Marks		
See Task 5	See Task 5 below for example of formulae in column E			
5	E10 Index with 2 matches for row/col pointers used	1		
	= INDEX( )	1		
	j22port.csv	1		
	!\$D\$3:\$M\$12	1		
	,MATCH( )	1		
	C9	1		
	,j22port.csv	1		
	!\$A\$3:\$A\$12 may have ,0 or ,1 at end	1		
	,MATCH( )	1		
	C10	1		
	j22port.csv	1		
	!\$D\$2:\$M\$2)) may have ,0 or ,1 in brackets	1		
	All ranges as absolute references	1		

Task	Answer	Marks
See Task 6	below for example of formulae in column F	
6	F10 = ROUNDUP()	1
	,0) at end of calculation	1
	E10/	1
	VLOOKUP()	1
	\$B\$5 with absolute referencing	1
	,j22ship.csv	1
	!\$A\$2:\$C\$27	1
	,3,0)	1
	/24	1

Task	Answer	Marks
See Task 7 below for example of formulae in column G		
7	<b>G10</b> = B9+F10	1

Task	Answer	Marks
See Task 8	below for example of formulae in column A	
8	<b>A10</b> = G10+2	1

Task	Answer	Marks
9	A9 blank when data removed **2 traps	1
	A10-A24 blank when data removed	1
	B9-B23 blank when data removed **2 traps	1
	D9-D24 blank when data removed	1
	E10-E24 blank when data removed	1
	F10-F24 blank when data removed	1
	G10 to G24 blank when data removed	1
	All data present in rows 9-11 for model	1

Task	Answer	Marks
10	Replicated A10, E10, F10, G10 to row 24	1
	Replicated B9, D9 to row 24	1

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Task	Answer	Marks
See Task 1	1 below for example of formula in cell A3	
11	A3 Ship's itinerary for no ship selected	1
	&	1
	VLOOKUP( )	1
	B5	1
	,j22ship.csv	1
	!\$A\$2:\$B\$27	1
	,2,0)	1
	,"No ship selected"	1
	Efficiency of solution ISERROR IFERROR etc	1

Task	Answer	Marks
12	All dates (excluding in header) formatted as dd/mm/yyyy	1

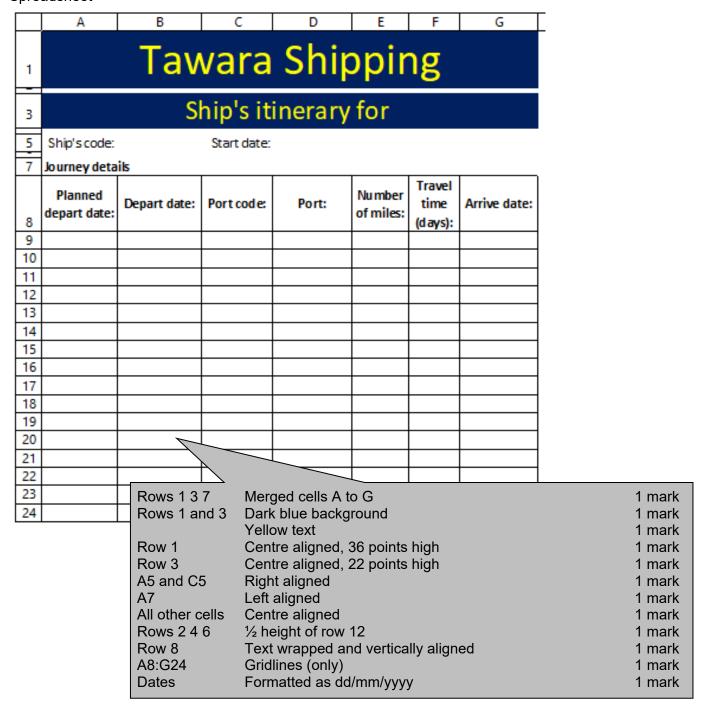
Task	Answer	Marks			
See Task 13 below for TS2_ model					
13	TS2_ Data for ship code H, port DNT and dept date 2/7/2022	1			
	Ship name Hariette				
	Depart date 3/7/2022				
	Ports Dolumbo, Negembe and Tawara				
	Number of miles 1400 and 2000	1			
Travel time 3 days for each leg		1			
	Final arrival date 11/7/2022	1			

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Task	Answer	Marks
See Task 14 below for TS3_ model		
14	TS3_ Ship name Ulyssess	
	Depart date 30/07/2022	
	Ports Fingagwa, Tawara, Snydey and Fingagwa	
	Arrive date 11/8/2022	1

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#### Task 1 Spreadsheet



B9-B24 blank when data removed 1 mark
D9-D24 blank when data removed 1 mark
E10-E24 blank when data removed 1 mark
F10-F24 blank when data removed 1 mark
G10 to G24 blank when data removed 1 mark

All formulae present in rows 9-24

A10-A24 blank when data removed

A9 blank when data removed

1 mark

1 mark

1 mark

May/June 2022

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	A
1	
-	The second second second second
3	="Ship's itinerary
5	Ship's code:
7	Journey details
8	Planned depart date:
9	=IF(D5="","",IFERROR(D5,""))
10	=IFERROR(G10+2,"")
11	=IFERROR(G11+2,"")
12	=IFERROR(G12+2,"")
13	=IFERROR(G13+2,"")
14	=IFERROR(G14+2,"")
15	=IFERROR(G15+2,"")
16	=IFERROR(G16+2,"")
17	=IFERROR(G17+2,"")
18	=IFERROR(G18+2,"")
19	=IFERROR(G19+2,"")
20	=IFERROR(G20+2,"")
21	=IFERROR(G21+2,"")
22	=IFERROR(GZ 2+2,"")
23	=IFERROR(G23+2,"")
24	=IFERROR(G24+2,"")

A9 = ... D5 1 mark A10 = ... G10+2 1 mark

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	В	
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	selected")	
3	selected /	
5	U	
7		
		+
	Depart date:	
8	Depart date.	
9	=IFER ROR(IF(VLOOKUP(C9,j22port.csv!\$A\$3:\$C\$12,3,0)="",A9,(IF(WEEKDAY(A9)=VLOOKUP(VLOOKUP(C9,j22port.csv!\$A\$3:\$C\$12,3,0),j22port.csv!\$A\$14:\$B\$20,2,0),A9+1,A9))),"")	
10	=IFERROR(IF(VLOOKUP(C10,j22port.csv!\$A\$3:\$C\$12,3,0)="",A10,(IF(WEEKDAY(A10)=VLOOKUP(VLOOKUP(C1, 22port.csv!\$A\$3:\$C\$12,3,0),j22port.csv!\$A\$14:\$B\$20,2,0),A10+1,A10))	)),"")
11	=IFER ROR(IF(VLOOKUP(C11,j22port.csv!\$A\$3:\$C\$12,3,0)="",A11,(IF(WEEKDAY(A11)=VLOOKUP(VLOOKUP(C11,j22), V!\$A\$3:\$C\$12,3,0),j22port.csv!\$A\$14:\$B\$20,2,0),A11+1,A11))	
12	=IFERROR(IF(VLOOKUP(C12,j22port.csv!\$A\$3:\$C\$12,3,0)="",A12,(IF(WEEKDAY(A12)=VLOOKUP(VLOOKUP(C12,j22port. \$\infty\$C\$12,3,0),j22port.csv!\$A\$14:\$B\$20,2,0),A12+1,A12))	
13	=IFERROR(IF(VLOOKUP(C13,j22port.csv!\$A\$3:\$C\$12,3,0)="",A13,(IF(WEEKDAY(A13)=VLOOKUP(VLOOKUP(C13,j22port.csv!\$\)20),j22port.csv!\$\\$4\$14:\$B\$20,2,0),A13+1,A13))	)),"")
14	=IFERROR(IF(VLOOKUP(C14,j22port.csv!\$A\$3:\$C\$12,3,0)="",A14,(IF(WEEKDAY(A14)=VLOOKUP(VLOOKUP(C14,j22port.csv!\$A\$3:, ort.csv!\$A\$14:\$B\$20,2,0),A14+1,A14))	)),"")
15	=IFERROR(IF(VLOOKUP(C15,j22port.csv!\$A\$3:\$C\$12,3,0)="",A15,(IF(WEEKDAY(A15)=VLOOKUP(VLOOKUP(C15,j22port.csv \$A\$3:\$C\$) \\ \( \$4\$14:\$8\$20.2.0\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	11 ""1
16	, , , , , , , , , , , , , , , , , , , ,	1 mark
17	· · · · · · · · · · · · · · · · · · ·	1 mark
18		1 mark
19	- 1 EKKOK(1 (* 1000KO1 (015,),22pott.C5*:9A90.90912,5,0)- ,A15,(1 (** 12KOK1/A15)-* 1000KO1 (* 1000KO1 (015,),22pott.C5*:	1 mark
20	- 1 EKKOK(1 (* EGOKOF(C20,)22port.C3*:5A50.5C512,5,0)- ,A20,(11 (* VEEKDAT(A20)-* EGOKOF(C20,)22port.C3*:	1 mark
21	LENDONOF (C21,)22port.csv: \$A\$3.\$C\$12,3,0)- ,A21,(ii (WEENDAT(A21)-VEOONOF (C21,)22port.csv;	1 mark
22	-IFERROR(IF(VLOOKOP(C22,)22port.CSV)\$4\$5.\$C\$12,5,0)- ,A22,(IF(WEERDAT(A22)-VLOOKOP(VLOOKOP(C22,)22port.CSV)	1 mark 1 mark
23	I-IFENNUNTIFFY LUUNUFFICZO. IZZDUIT. CSV: 3A33. 3C3 1Z. 3.UI AZ3.TIFFW EENDATTAZ3I-VLUUNUFFICZ3. IZZDUIT. CSVI	1 mark
24	EFFERRORDED TOOKUPIC 24 122 nort csvISAS3: SCS12 3 DE" A24 DEDWEEKDAY(A24)=VLOOKUPIV OOKUPIC 24 122 nort csvI	1 mark
		1 mark
	<b>v</b> !	1 mark
		1 mark
	,	1 mark
		1 mark

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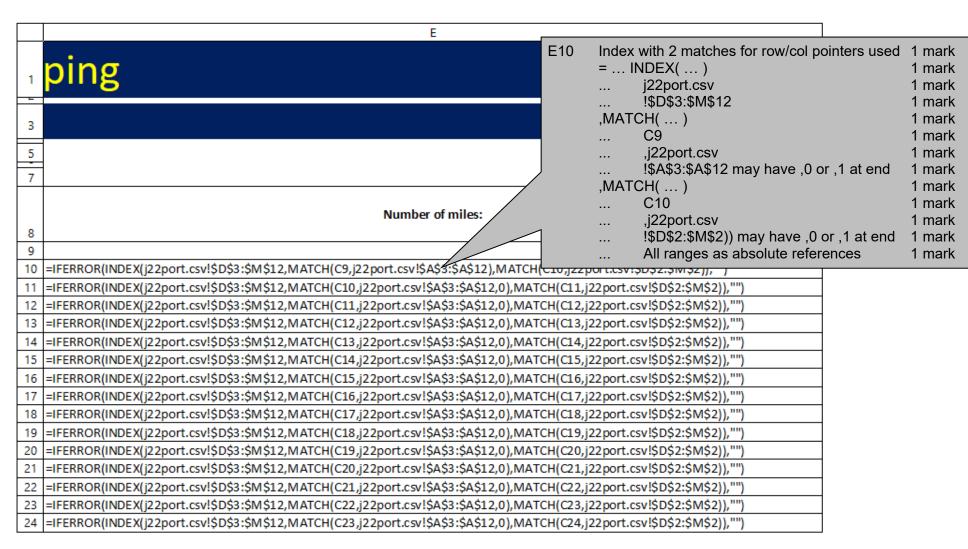
	С	D
		Tawara Ship
1		rawara sinp
_		
3		
5	Start date:	44772
7		
-		
	Port code:	Port:
8	roit couc.	T or c
9	Z	=IFERROR(VLOOKUP(C9,j22port.csv!\$A\$3:\$B\$12,2,0),"")
10	Т	=IFERROR(VLOOKUP(C10,j22port.csv!\$A\$3:\$B\$120),"")
11	S	=IFERROR(VLOOKUP(C11,j22port.csv!\$A\$3:\$B\$12,2,0)
12	Z	=IFERROR(VLOOKUP(C12,j22port.csv!\$A\$3:\$B\$12,2,0),"")
13		=IFERROR(VLOOKUP(C13,j22port.csv!\$A\$3:\$B\$12,2,0),"")
14		=IFERROR(VLOOKUP(C14,j22port.csv!\$A\$3:\$B\$12,2,0),"")
15		=IFERROR(VLOOKUP(C15,j22port.csv!\$A\$3:\$B\$12,2,0),"")
16		=IFERROR(VLOOKUP(C16,j22port.csv!\$A\$3:\$B\$12,2,0),"")
17		=IFERROR(VLOOKUP(C17,j22port.csv!\$A\$3:\$B\$12,2,0),"")
18		=IFERROR(VLOOKUP(C18,j22port.csv!\$A\$3:\$B\$12,2,0),"")
19		=IFERROR(VLOOKUP(C19,j22port.csv!\$A\$3:\$B\$12,2,0),"")
20		=IFERROR(VLOOKUP(C20,j22port.csv!\$A\$3:\$B\$12,2,0),"")
21		=IFERROR(VLOOKUP(C21,j22port.csv!\$A\$3:\$B\$12,2,0),"")
22		=IFERROR(VLOOKUP(C22,j22port.csv!\$A\$3:\$B\$12,2,0),"")
23		=IFERROR(VLOOKUP(C23,j22port.csv!\$A\$3:\$B\$12,2,0),"")
24		=IFERROR(VLOOKUP(C24,j22port.csv!\$A\$3:\$B\$12,2,0),"")

= VLOOKUP()	1 mark
C9 ` ´	1 mark
,j22port.csv	1 mark
!\$A\$3:\$B\$12	1 mark
,2,0)	1 mark
	C9 ,j22port.csv !\$A\$3:\$B\$12

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		F		
	1			
	-			
	3			
	5			
	7			
	. 8	Travel time (days):	Arrive date:	
	9			
	10 =IFERROR(ROUNDUP(E10/VLOOKU	P(\$B\$5,j22ship.csv!\$A\$2:\$C\$27,3,0)/24,0),"")	=IFERROR(B9+F10,"")	
		P(\$B\$5,j22ship.csv!\$A\$2:\$C\$27,3,0)/24,0),"")	=I/ RROR(B10+F11,"")	
		P(\$B\$5,j22ship.csv!\$A\$2:\$C\$27,3,0)/24,0),"")	= RROR(B11+F12,"")	
		P(\$B\$5,j22ship.csv!\$A\$2:\$C\$27,3,0)/24,0),"")	RROR(B12+F13,"")	
		P(\$B\$5,j22ship.csv!\$A\$2:\$C\$27,3,0)/24,0),"")	RROR(B13+F14,"")	
	15 UNDUP(E15/VLOOKU)	P(\$B\$5,j22ship.csv!\$A\$2:\$C\$27,3,0)/24,0),"")	RROR(B14+F15,"")	
F10	= ROUNDUP() ,0) at end of calculation	1 mark /!\$A\$2:\$C\$27,3,0)/24,0),"") 1 mark /!\$A\$2:\$C\$27,3,0)/24,0),"")	RROR(B15+F16,"") RROR(B16+F17,"")	
	E10/	1 mark 1 mark /!\$A\$2:\$C\$27,3,0)/24,0),"")	ROR(B17+F18,"") ROR(B18+F19,"")	
	VLOOKUP()	1 mark	ROR(B19+F20,"")	
	\$B\$5 with absolute referencing	1 mark	ROR(B20+F21,"")	
	,j22ship.csv	I IIIaik	ROR(B21+F22,"")	
	!\$A\$2:\$C\$27	1 mark 1 mark 1 mark	ROR(B22+F23,"")	
	,3,0) /24	1 mark /!\$A\$2:\$C\$27,3,0)/24,0),"")	ROR(B23+F24,"")	
	124	Tillark		
		G10 = B9+F10	1 mark	
		Replicated A10, E10, F10, G10 to row 24 Replicated B9, D9 to row 24	1 mark 1 mark	

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# **Tawara Shipping**

## Ship's itinerary for Harriette

Ship's code: H Start date: 02/07/2022

#### Journey details

Planned depart date:	Depart date:	Port code:	Port:	Number of miles:	Travel time (days):	Arrive date:
02/07/2022	03/07/2022	D	Dolumbo			
08/07/2022	08/07/2022	N	Negembe	1400	3	06/07/2022
13/07/2022	13/07/2022	T	Tawara	2000	3	11/07/2022
	\					
		Δ				
		Ц				
		Ц				
		\				

TS2_	Data for ship code H, port DNT and start date 2/7/2	022 1 mark
	Ship name Harriette	1 mark
	Depart date 3/7/2022	1 mark
	Ports Dolumbo, Negembe and Tawara	1 mark
	Number of miles 1400 and 2000	1 mark
	Travel time 3 days for each leg	1 mark
	Final arrival date 11/7/2022	1 mark

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# **Tawara Shipping**

### Ship's itinerary for Ulyssess

Ship's code: U Start date: 30/07/2022

Lourn		Lotai	16-
Journ	ey c	leta	ю

Planned depart date:		Port code:	Port:	Number of miles:	Travel time (days):	Arrive date:
30/07/2022	31/07/2022	Z	Fingagwa			
04/08/2022		T	Tawara	900	2	02/08/2022
07/08/2022	08/08/2022	S	Snydey	400	1	05/08/2022
13/08/2022	14/08/2082	Z	Fingagwa	1400	3	11/08/2022
	\	_				
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		7				
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		$\Box$	_			
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TS3	Ship name Ulyssess	1 mark
-	Depart date 31/07/2022	1 mark
	Ports Fingagwa, Tawara, Snydey and Fingagwa	1 mark
	Arrive date 11/8/2022	1 mark

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