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**INFORMATION TECHNOLOGY**

**9626/02**

Paper 2 Practical

**March 2019**

MARK SCHEME

Maximum Mark: 110

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**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 March 2019 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

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This document consists of **8** printed pages.

**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.

**Video**

Ellmau video:	Image ratio of software set to 16:9	1 mark
	Still image from Ellmau1.jpg	1 mark
	...cropped	1 mark
	...to match 16:9 image ratio	1 mark
	...without distortion or pixelation	1 mark
	...with the road removed	1 mark
	Title frame at start as background image	1 mark
	Title frame 18 seconds duration	1 mark
	Title text Looking for a winter holiday?	1 mark
	Bottom centre of screen and clearly visible	1 mark
	Large easily read font with reasonably good contrast	1 mark
	Effect added for title animation	1 mark
	Effect does not hinder readability with background still visible	1 mark
	Effect added to give sufficient time to read text within 7 secs	1 mark
	2-second gap with background present	1 mark
Caption:	Caption frames 7 seconds duration	1 mark
	2-second gap with background present	1 mark
	Caption in visible font with reasonably good contrast	1 mark
	Caption text includes Traditional Austrian hospitality	1 mark
	Caption text includes Stunning mountain scenery	1 mark
	Caption text includes Ellmau	1 mark
	Different effect added for caption animation	1 mark
Video:	Placed after caption and 2nd 2-second gap	1 mark
	First 6-second cut – use position of mountain	1 mark
	End of video cut	1 mark
	Only 10 seconds of video remain	1 mark
	No soundtrack to clip	1 mark
Credits:	Snapshot of last frame extracted in appropriate format	1 mark
	Placed after video clip	1 mark
	Duration 7 seconds	1 mark
	Filmed by GBRvideo	1 mark
	Location Ellmau	1 mark
	Country Austria	1 mark
	'Date filmed'	1 mark
	Correct date extracted from video metadata – 3/1/2009	1 mark
	Candidate name and numbers in credits in appropriate format	1 mark
	Appropriate blank line/s as spacing between credits	1 mark

**Audio file E2\_ZZ999\_9999.mp3**

Audio file:	Ellmau1 first	1 mark
	...cut to 22 seconds	1 mark
	...with 2-second fade out	1 mark
	Ellmau 2 appended	1 mark
	...with 2-second fade in	1 mark
	Whole file cut to 35 seconds	1 mark
	Fade in and out present	1 mark
	...with appropriate duration for length of sound clip	1 mark
	Audio clip saved as E2_ZZ999_9999.mp3	1 mark

**Video File E3**

E3:	Soundtrack added as specified	1 mark
	Movie saved in wmv format	1 mark

**Video File E4**

E4:	Export or conversion of file type	1 mark
	In avi format	1 mark

**Identify and describe six components of a data dictionary.**

Any **six** full descriptions from:

Table name (must include it has to be unique)

Field names

Data type assigned to each field

Field length (to restrict storage capacity required)

Validation checks on fields

Primary key fields

Foreign key fields

Relationships

Indexes (to improve speed of access/searching a database)

Permissions/Access rights to a database – who can access to edit/read only etc.

1 mark each. Max 6

**Evaluate the given table structure.**

**Six** from:

Inappropriate case in table name

Customer reference number field name is too long.

Customer reference number field name contains spaces

Customer reference number field has data type set to Numeric but is Alphanumeric

Primary key should be on Customer Reference Number field / Customer Reference Number could be indexed with no duplicates...

... making ID field redundant.

Telephone\_No field should be an alphanumeric rather than numeric data type.

Most/all required fields are present.

1 mark each. Max 6

<b>RoomAvailability</b>	Room type:	=HLOOKUP(C1,.....)	1 mark
		RoomTypes.csv!\$B\$1:\$F\$2,2,0	1 mark
	Hotel name:	=VLOOKUP(A3,.....)	1 mark
		Hotel.csv!\$A\$2:\$B\$15,2,0	1 mark
		Appropriate labels in B17, B18 and H2	1 mark
		C17 - =SUM(C3:C16) – rel reference	1 mark
		C18 - =COUNT(C3:.....) – rel reference	1 mark
		...C16 – NOT C17	1 mark
		H3 - =SUM(C3:G3)	1 mark
		Replication of all 5 formulae (includes H17)	1 mark

	A	B	C	D	E
2			=HLOOKUP(C1,RoomTypes.csv!\$B\$1:\$F\$2,2,0)	=HLOOKUP(D1,RoomTypes.csv!\$B\$1:\$F\$2,2,0)	=HLOOKUP(E1,RoomTypes.csv!\$B\$1:\$F\$2,2,0)
3	AH	=VLOOKUP(A3,Hotel.csv!\$A\$2:\$B\$15,2,0)	12	3	
4	DB	=VLOOKUP(A4,Hotel.csv!\$A\$2:\$B\$15,2,0)		0	
5	SP	=VLOOKUP(A5,Hotel.csv!\$A\$2:\$B\$15,2,0)			2
6	KB	=VLOOKUP(A6,Hotel.csv!\$A\$2:\$B\$15,2,0)	6	2	
7	KH	=VLOOKUP(A7,Hotel.csv!\$A\$2:\$B\$15,2,0)		10	
8	PR	=VLOOKUP(A8,Hotel.csv!\$A\$2:\$B\$15,2,0)			
9	AT	=VLOOKUP(A9,Hotel.csv!\$A\$2:\$B\$15,2,0)			
10	HH	=VLOOKUP(A10,Hotel.csv!\$A\$2:\$B\$15,2,0)	2	2	1
11	AC	=VLOOKUP(A11,Hotel.csv!\$A\$2:\$B\$15,2,0)			
12	LF	=VLOOKUP(A12,Hotel.csv!\$A\$2:\$B\$15,2,0)		6	
13	PL	=VLOOKUP(A13,Hotel.csv!\$A\$2:\$B\$15,2,0)		2	
14	AB	=VLOOKUP(A14,Hotel.csv!\$A\$2:\$B\$15,2,0)		7	
15	HA	=VLOOKUP(A15,Hotel.csv!\$A\$2:\$B\$15,2,0)		4	
16	AF	=VLOOKUP(A16,Hotel.csv!\$A\$2:\$B\$15,2,0)		9	
17	<b>Number of rooms available</b>		=SUM(C3:C16)	=SUM(D3:D16)	=SUM(E3:E16)
18	<b>Number of hotels with rooms available for this room type</b>		=COUNT(C3:C16)	=COUNT(D3:D16)	=COUNT(E3:E16)

	F	G	H
2	=HLOOKUP(F1,RoomTypes.csv!\$B\$1:\$F\$2,2,0)	=HLOOKUP(G1,RoomTypes.csv!\$B\$1:\$F\$2,2,0)	<b>Number of rooms available</b>
3	0	2	=SUM(C3:G3)
4	6	6	=SUM(C4:G4)
5	12	1	=SUM(C5:G5)
6	2	3	=SUM(C6:G6)
7	5	2	=SUM(C7:G7)
8	4	5	=SUM(C8:G8)
9	12	6	=SUM(C9:G9)
10	6	20	=SUM(C10:G10)
11	2		=SUM(C11:G11)
12	12	1	=SUM(C12:G12)
13	5	2	=SUM(C13:G13)
14	5		=SUM(C14:G14)
15	3	5	=SUM(C15:G15)
16		6	=SUM(C16:G16)
17	=SUM(F3:F16)	=SUM(G3:G16)	=SUM(C17:G17)
18	=COUNT(F3:F16)	=COUNT(G3:G16)	

**File transfer**

	A		
1	<b>Data transfer from hotel</b>	Hotel name:	=VLOOKUP() LEFT(A2,2), Hotel.csv!\$A\$2:\$B\$15, 2,FALSE or ,0
2	ATD11F06		1 mark
3			1 mark
4			1 mark
5	<b>Hotel name</b>		
6	=VLOOKUP(LEFT(A2,2),Hotel.csv!\$A\$2:\$B\$15,2,0)		1 mark

	E
1	
2	
3	
4	Single
5	S
6	=IF(B5=MID(\$A\$2,3,1),MID(\$A\$2,4,2)*1,IF(B5=MID(\$A\$2,6,1),MID(\$A\$2,7,2)*1,IF(B5=MID(\$A\$2,9,1),MID(\$A\$2,10,2)*1,IF(B5=MID(\$A\$2,12,1),MID(\$A\$2,13,2)*1,)))

Rooms available for each type:

=IF()	1 mark
B5=	1 mark
MID(\$A\$2,	1 mark
3,1)	1 mark
,MID(\$A\$2,	1 mark
4,2)	1 mark
*1 (or equivalent to turn into a numeric value)	1 mark
IF(B5=MID(\$A\$2,6,1)	1 mark
,MID(\$A\$2,7,2)*1	1 mark
IF(B5=MID(\$A\$2,9,1)	1 mark
,MID(\$A\$2,10,2)*1	1 mark
IF(B5=MID(\$A\$2,12,1)	1 mark
,MID(\$A\$2,13,2)*1	1 mark
Default to null string or zero	1 mark

	F
1	
2	
3	
4	Twin
5	T
6	=IF(C5=MID(\$A\$2,3,1),MID(\$A\$2,4,2)*1,IF(C5=MID(\$A\$2,6,1),MID(\$A\$2,7,2)*1,IF(C5=MID(\$A\$2,9,1),MID(\$A\$2,10,2)*1,IF(C5=MID(\$A\$2,12,1),MID(\$A\$2,13,2)*1,)))

	D
1	
2	
3	
4	Penthouse
5	P
6	=IF(D5=MID(\$A\$2,3,1),MID(\$A\$2,4,2)*1,IF(D5=MID(\$A\$2,6,1),MID(\$A\$2,7,2)*1,IF(D5=MID(\$A\$2,9,1),MID(\$A\$2,10,2)*1,IF(D5=MID(\$A\$2,12,1),MID(\$A\$2,13,2)*1,)))

	E
1	
2	
3	
4	Double
5	D
6	=IF(E5=MID(\$A\$2,3,1),MID(\$A\$2,4,2)*1,IF(E5=MID(\$A\$2,6,1),MID(\$A\$2,7,2)*1,IF(E5=MID(\$A\$2,9,1),MID(\$A\$2,10,2)*1,IF(E5=MID(\$A\$2,12,1),MID(\$A\$2,13,2)*1,)))

	F
1	
2	
3	
4	Family
5	F
6	=IF(F5=MID(\$A\$2,3,1),MID(\$A\$2,4,2)*1,IF(F5=MID(\$A\$2,6,1),MID(\$A\$2,7,2)*1,IF(F5=MID(\$A\$2,9,1),MID(\$A\$2,10,2)*1,IF(F5=MID(\$A\$2,12,1),MID(\$A\$2,13,2)*1,)))

	A	B				
1	Data transfer from hotel					
2	ATD11F06					
3						
4		Single	Twin	Penthouse	Double	Family
5	Hotel name	S	T	P	D	F
6	Apparhotel Tom Sojer				11	6

Correct data entered into the model  
 Correct resulting figures

1 mark
1 mark

	A	B					
1	<b>Data transfer from hotel</b>		Correct data entered into the model Correct resulting figures				1 mark 1 mark
2	LFD08T06						
3							
4			Single	Twin	Penthouse	Double	Family
5	<b>Hotel name</b>		<b>S</b>	<b>T</b>	<b>P</b>	<b>D</b>	<b>F</b>
6	Landhotel Föhrenhof			6		8	

**Before**

	B	C	D	E	F	G	H
2		<b>Single</b>	<b>Twin</b>	<b>Penthouse</b>	<b>Double</b>	<b>Family</b>	<b>Number of rooms available</b>
3	AktivHotel Hochfilzer	12	3			0	2
4	Hotel Der Bär		0			6	6
5	Sporthotel				2	12	1
6	Kaiserblick	6	2			2	3
7	Kaiserhof		10			5	2
8	Pension Rainer					4	5
9	Apparthotel Tom Sojer					12	6
10	Haus Harmony	2	2	1		6	20
11	Alpenpension Claudia					2	
12	Landhotel Föhrenhof		6			12	1
13	Ferienappartements Landhof		2			5	2
14	Appartementhaus Bambi		7			5	
15	Hotel Alte Post		4			3	5
16	Appartement Fuchs		9				6
17	<b>Number of rooms available</b>	<b>20</b>	<b>45</b>	<b>3</b>	<b>74</b>	<b>59</b>	<b>201</b>
18	<b>Number of hotels with rooms available for this room type</b>	<b>3</b>	<b>10</b>	<b>2</b>	<b>13</b>	<b>12</b>	

**After**

	A	B	C	D	E	F	G	H
2			<b>Single</b>	<b>Twin</b>	<b>Penthouse</b>	<b>Double</b>	<b>Family</b>	<b>Number of rooms available</b>
3	AH	AktivHotel Hochfilzer	12	3			0	2
4	DB	Hotel Der Bär		0			6	6
5	SP	Sporthotel				2	12	1
6	KB	Kaiserblick					2	3
7	KH	Kaiserhof		10			5	2
8	PR	Pension Rainer					4	5
9	AT	Apparthotel Tom Sojer					11	6
10	HH	Haus Harmony	2	2	1		6	20
11	AC	Alpenpension Claudia					2	
12	LF	Landhotel Föhrenhof		6			8	
13	FL	Ferienappartements Landhof		2			5	2
14	AB	Appartementhaus Bambi		7			5	
15	HA	Hotel Alte Post		4			3	5
16	AF	Appartement Fuchs		9				6
17		<b>Number of rooms available</b>	<b>20</b>	<b>45</b>	<b>3</b>	<b>69</b>	<b>58</b>	<b>195</b>
18		<b>Number of hotels with rooms available for this room type</b>	<b>3</b>	<b>10</b>	<b>2</b>	<b>13</b>	<b>11</b>	

Model 1 Data from model in correct place – row 9 1 mark  
 Model 2 Data from model in correct place – row 12 1 mark

**Splashscreen**

	A	B
1	Available accommodation in Ellmau	
3	=COUNTIF([RA1_ZZ999_9999.xlsx]RoomAvailability!\$H\$3:\$H\$16,">0")	<b>Hotels have vacancies</b>
4	=([RA1_ZZ999_9999.xlsx]RoomAvailability!\$H\$17	<b>Rooms are available</b>
6	<b>Available are:</b>	
7	=([RA1_ZZ999_9999.xlsx]RoomAvailability!\$C\$17	Single rooms
8	=([RA1_ZZ999_9999.xlsx]RoomAvailability!\$D\$17	Twin rooms
9	=([RA1_ZZ999_9999.xlsx]RoomAvailability!\$E\$17	Penthouse suites
10	=([RA1_ZZ999_9999.xlsx]RoomAvailability!\$F\$17	Double rooms
11	=([RA1_ZZ999_9999.xlsx]RoomAvailability!\$G\$17	Family rooms

A3: =COUNTIF()  
 [RAModel1\_ZZ999\_9999]RoomAvailability!  
 \$H\$3:\$H\$16  
 ">0"  
 1 mark  
 1 mark  
 1 mark  
 1 mark

A4 RoomAvailability!H17 or =SUM(a7:A11) 1 mark

A7 – A11: Refer to C17 to G17 1 mark

	A	B
1	Available accommodation in Ellmau	
3	14	<b>Hotels have vacancies</b>
4	201	<b>Rooms are available</b>
6	<b>Available are:</b>	
7	20	Single rooms
8	45	Twin rooms
9	3	Penthouse suites
10	74	Double rooms
11	59	Family rooms

Cell A1 and A2 Merged with text wrap 1 mark  
 Black background with white, large sans-serif font 1 mark  
 Rows 2 and 5 narrow 1 mark  
 B3, B4 and A6 bold 1 mark