



# Cambridge International AS & A Level

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**INFORMATION TECHNOLOGY**

**9626/04**

Paper 4 Advanced Practical

**May/June 2021**

**MARK SCHEME**

Maximum Mark: 110

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<p><b>Published</b></p>
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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 2021 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 **10** 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:

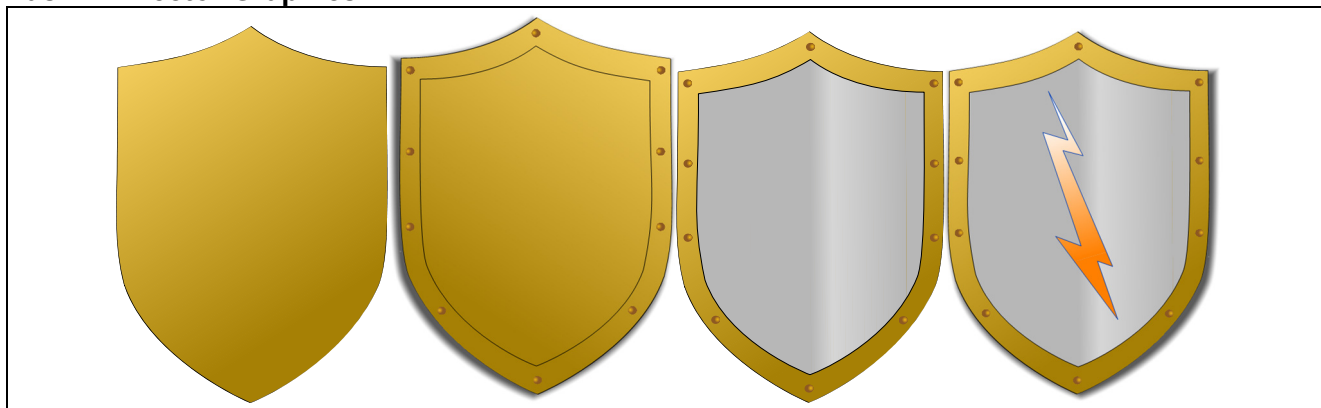
Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

#### 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:

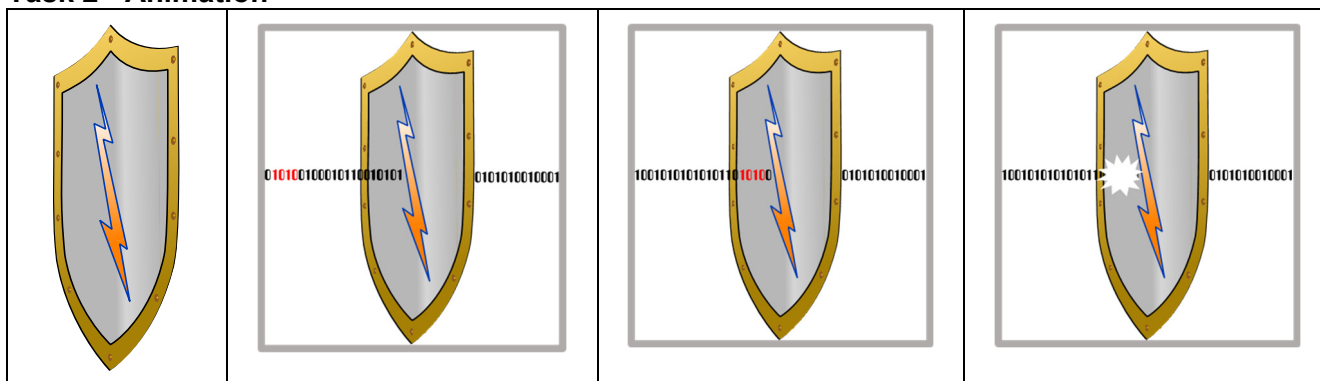
Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

**Task 1 – Vector Graphics**

Correct shield shape – shoulders align – curves to central peaks -straight sides <i>Curves to bottom should only start at last stud</i>	1
...Symmetrical top <i>Only if similar shape to example</i>	1
...Symmetrical bottom <i>Only if similar shape to example</i>	1
Correct number of studs -10	1
Studs are correctly positioned – 1 bottom and 1 top 3 vertical – 2 on curves	1
...Studs are aligned horizontally – and central in rim.	1
Studs appear domed	1
Rim is the correct thickness – Equal widths	1
Rim is gold	1
Rim gradient fill is vertical <i>Can be quite faint but must be apparent</i>	1
Rim gradient is light-dark gold – vertical <i>Can also be slightly horizontal as long as bottom is darker than the top</i>	1
Panel is silver/grey	1
Panel gradient fill is horizontal	1
... Gradient is dark-light-dark	1
...Gradient is offset	1
...Gradient is offset to right <i>Can be very slight, could be central if lighter to right</i>	1
Bolt is added	1
Bolt is the correct shape – 'Z' angles are equal	1
Bolt has a gradient fill	1
...Bolt fill is correct – vertical white/light to dark gold	1
Bolt position – centred	1
Bolt proportions – correct width and length	1
Shadow is added to shield <i>– not distinct shape – must look as if it fades – at least slightly</i>	1

Shadow is mostly right and down with correct proportions	1
All Shield properties are correct and in proportion (inc. shadow)	1

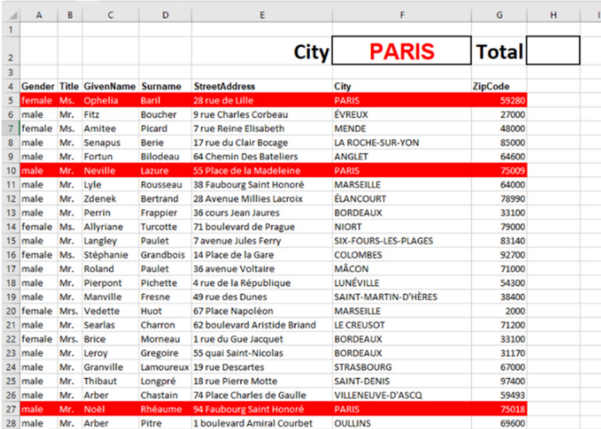
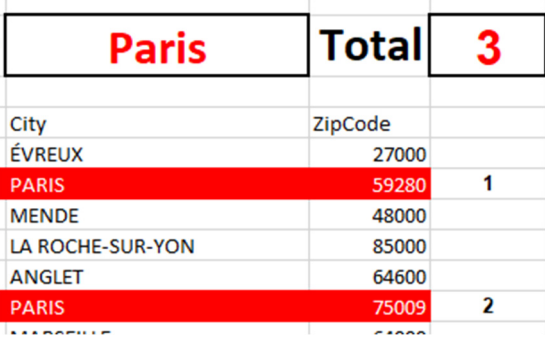
[25]

**Task 2 - Animation**

Shield used – must animate with digits	1
Shield is intact – no visible split	1
Shield appears cleanly turned, not just narrowed or skewed	1
Rim, Panel, Studs, Bolt are intact and in the correct place	1
All turned Shield properties match the QP and are in proportion	1
Mask or layers are used to create impression of digits disappearing	1
Mask/Layers create the impression of digits disappearing into the shield	1
Mask/layers create the impression of digits re-appearing	1
Mask/Layers are undetectable	1
Moving – stream of digits – loop at appropriate speed	1
Digits are the correct size – not convincingly too big/small	1
Digits travel – roll in – continuously undetectable loop or hiatus	1
...Travel is smooth at a constant speed	1
Digits roll left to right – horizontally only.	1
Red digits appear – roll in – from left the red digits must roll in and not just appear.	1
Rolling digits appear to be split by the shield	1
Digits split at the centre of the shield	1
Digits roll in front of and behind the shield as a stream	1
Travel is uninterrupted when the 'pop' appears (not if static 'pop') 'pop' must not restart the animation	1
No red digits after 'pop' (or shield) – stream must appear to continue	1
Pop appears in an appropriate place in the stream.	1
Pop appears over the red digits	1
...Pop obscures all the red digits	1
Animation is saved as .gif or .swf	1
Animation is 640px × 480px	1

**[25]**

## Task 3 – Spreadsheet challenge

	A	B	C	D	E	F	G	H	I
1									
2					<b>City</b>		<b>Total</b>		
3									
3 new rows are added									1
Row 2 – is Twice default height									1
Cells F2, H2 Borders – Thick – Black – Suitable Column widths – space for 2 digits in H									1
Labels E2, G2 – City – Total – 100% accurate									1
Labels E2, G2 Format – Align Right – 24pt – Bold – Black – Sans									1
Text in F2 AND H2 format – Align Centre – 24pt – Bold – Red – Sans									1
									
Conditional formatting works for City column -(any city)									1
...City turns – Red Fill /White Text									1
...Works for the City Column for full data set – – consistent White on Red									1
Formatting works for selected City Whole Row									1
Formatting works for all table – A5:G105 only – (not F2)									1
Uses 'Formula to determine...' – (not 'Cells that contain')									1
Single Rule for whole Table -( \$A\$5:\$G\$104)									1
... Single range is used for formula – (\$A\$5:\$G\$104)									1
									
Rows for ANY selected city marked ,not manually, in Column H									1
...Formula replicated for all rows									1
...Rows numbered sequentially and automatically in Column H									1

...Efficient numbering method used	1
Count correct for any City in H2	1
...Valid formula used	1

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1						City	Bordeaux	Total	8								
2																	
3																	
4	Gender	Title	GivenName	Surname	StreetAddress	City	ZipCode				Gender	Title	GivenName	Surname	StreetAddress	City	ZipCode
5	male	M.	Fitz	Boucher	9 RUE CHARLES CORBEAU	ÉVREUX	27000				1 male	M.	Perrin	Frappier	36 COURS JEAN JAURES	BORDEAUX	33100
6	female	Mlle	Ophelia	Baril	28 RUE DE LILLE	PARIS	59280				2 female	Mme	Brice	Morneau	1 RUE DU GUE JACQUET	BORDEAUX	33100
7	female	Mlle	Amitée	Picard	7 RUE REINE ELISABETH	MENDE	48000				3 male	M.	Leroy	Gregoire	55 QUAI SAINT-NICOLAS	BORDEAUX	31170
8	male	M.	Senapus	Berie	17 RUE DU CLAIR BOGAGE	LA ROCHE-SUR-YON	85000				4 male	M.	Benoît	Brodeur	22 RUE NATIONALE	Bordeaux	75003
9	male	M.	Fortun	Bilodeau	64 CHEMIN DES BATELIERS	ANGLET	64600				5 female	Mlle	Aurore	Martin	63 RUE LA BOËTIE	Bordeaux	75015
10	male	M.	Neville	Lazure	55 PLACE DE LA MADELEINE	PARIS	75009				6 female	Mme	Julie	Langelier	50 RUE DU GUE JACQUET	BORDEAUX	33100
11	male	M.	Lyle	Rousseau	38 FAUBOURG SAINT HONORÉ	MARSEILLE	64000				7 female	Mlle	Olivie	Blais	29 AVENUE DES PRES	BORDEAUX	34000
12	male	M.	Zdenek	Bertrand	28 AVENUE MILLIES LACROIX	ÉLANCOURT	78990				8 male	M.	Eliot	Jacques	45 RUE ISAMBARD	BORDEAUX	35300
13	male	M.	Perrin	Frappier	36 COURS JEAN JAURES	BORDEAUX	33100	1									
14	female	Mlle	Allyriane	Turcotte	71 BOULEVARD DE PRAGUE	NIORT	79000										
21	male	M.	Searlas	Charron	62 BOULEVARD ARISTIDE BRIAND	LE CREUSOT	71200										
22	female	Mme	Brice	Morneau	1 RUE DU GUE JACQUET	BORDEAUX	33100	2									
23	male	M.	Leroy	Gregoire	55 QUAI SAINT-NICOLAS	BORDEAUX	31170	3									
24	male	M.	Granville	Lamoureux	19 RUE DESCARTES	STRASBOURG	67000										
42	male	M.	Chappell	Aubin	5 RUE DES COUDRIERS	MONT-SAINT-AIGNAN	76130										
43	male	M.	Benoît	Brodeur	22 RUE NATIONALE	Bordeaux	75003	4									
44	female	Mlle	Harriette	Rhœume	86 RUE PETITE FUSTERIE	BOURG-EN-BRESSE	1000										
53	male	M.	Latimer	Durand	35 RUE GOYA	LE PERREUX-SUR-MARNE	94170										
54	female	Mlle	Aurore	Martin	63 RUE LA BOËTIE	Bordeaux	75015	5									
55	female	Mlle	Marguerite	Desroches	25 BOULEVARD BRYAS	CREIL	60100										
59	male	M.	Namo	Leclair	96 PLACE NAPOLEON	LAMBERSART	59130										
60	female	Mme	Julie	Langelier	50 RUE DU GUE JACQUET	BORDEAUX	33100	6									
61	female	Mlle	Albracca	Leroy	84 RUE BEAUVAU	MARSEILLE	13004										
70	male	M.	Harbin	Dodier	3 CHEMIN CHALLET	LILLE	59000										
71	female	Mlle	Olivie	Blais	29 AVENUE DES PR'ES	BORDEAUX	34000	7									
72	female	Dr.	Olympia	Lapointe	37 RUE PIERRE DE COUBERTIN	TOULOUSE	31100										
79	male	M.	Audric	Auberjonois	34 QUAI SAINT-NICOLAS	TOURCOING	59200										
80	male	M.	Eliot	Jacques	45 RUE ISAMBARD	BORDEAUX	35300	8									
Data for user selected City – One Field in One row extracted – not copied or typed										1							
Data for user selected City – All data in One Column extracted and correct										1							
Data for user selected City – All data in ONE row extracted – and correct										1							
Data for user selected City – All data in All rows extracted – and correct										1							
A LOOKUP() function used to extract the correct data										1							
...Efficient Method e.g. use of INDEX and MATCH										1							
...Replicated for all ROWS k5:Q20+										1							
Rows with correct data extracted as a contiguous table										1							
Attempt to Blank rows without selected city data										1							
Valid method to blank rows										1							
...Non selected city rows blank										1							
Only rows with data are numbered in column J										1							
...rows in column J are contiguous and sequential										1							
Efficient method to hide numbers – e.g. single Conditional formatting formula										1							
Whole sheet works for city entered										1							

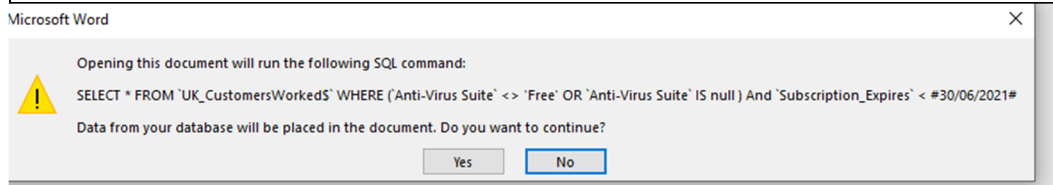
[35]

**Task 4 – Mail Merge**

Number	Title	Given_Name	Surname	Anti-Virus_Suite	Member_Since	Subscription_Expires	Years	Offer_Code
39	Ms.	Evie	Bishop	PremierShield	21/06/2018	21/06/2021	3	P3
66	Ms.	Millie	Williamson	WebShield	08/06/2018	08/06/2021	3	W3
156	Mrs.	Ruby	Simpson	TotalShield	20/06/2019	20/06/2021	2	
205	Mr.	Liam	Yates	TotalShield	29/06/2018	29/06/2021	3	T3
273	Mrs.	Amber	Finch	WebShield	12/06/2019	12/06/2021	2	
426	Mr.	Charlie	Harvey	WebShield	26/06/2018	26/06/2021	3	W3
760	Mr.	Sam	Booth	TotalShield	14/06/2018	14/06/2021	3	T3

Years	Offer_Code
=IF(J40="", "", INT((J40-I40)/365.25))	=IF(OR(J40="", K40<3), "", LEFT(H40,1)&K40)
=IF(J67="", "", INT((J67-I67)/365.25))	=IF(OR(J67="", K67<3), "", LEFT(H67,1)&K67)
=IF(J157="", "", INT((J157-I157)/365.25))	=IF(OR(J157="", K157<3), "", LEFT(H157,1)&K157)
=IF(J206="", "", INT((J206-I206)/365.25))	=IF(OR(J206="", K206<3), "", LEFT(H206,1)&K206)
=IF(J274="", "", INT((J274-I274)/365.25))	=IF(OR(J274="", K274<3), "", LEFT(H274,1)&K274)
=IF(J427="", "", INT((J427-I427)/365.25))	=IF(OR(J427="", K427<3), "", LEFT(H427,1)&K427)
=IF(J761="", "", INT((J761-I761)/365.25))	=IF(OR(J761="", K761<3), "", LEFT(H761,1)&K761)

MergeData.xlsx used for calculations – must be correct filename Must see some attempt or correct data	1
Valid Calculation of Years of subs shown – (Must exclude Free members)	1
Valid method for Offer code – Concat. 2 single CHR elements	1
Correct YEAR Integer values	1
Correct codes – including case and spacing	1



REFORMAT }

```
{ MERGEFIELD "StreetAddress" }
{ MERGEFIELD "City" }
{ M { SKIPIF WebShield = "Free" }:
```

Dear { MERGEFIELD Title } { MERGEFIELD GivenName } { MERGEFIELD Surname }

Evidence of selection – in Spreadsheet, SKIPIF or details in SELECT FROM box	1
date format in letter – dd MMMM – yyyy – 28 April – 2021 inc. spacing	1
(No title) Given_Name (space) Surname	1
Address fields – Street_Address, City	1
Zip_Code	1
Layout for whole address block – on new lines	1
Title, Given_Name, Surname mergefields inserted	1
...Title(space)Given_Name(space)Surname – and the only text on the line	1



(space)AntiVirus_Suite version(space)mergefield inserted	1
(space)Subscription_Expires mergefield inserted & formatted to – dd-MMM	1

{ IF { MERGEFIELD Offer\_Code } = "P3" "As a reward for your loyalty we can offer you a free download of our new MalwareZap application. Just visit our website for instructions." "{ IF { MERGEFIELD Offer\_Code } = "T3" "As a loyal customer we are happy to offer you a free upgrade to the PremierShield suite for the next year." "{ IF { MERGEFIELD Offer\_Code } = "W3" "As a loyal customer we are happy to offer you a free upgrade to the TotalShield suite for the next year." "{ IF { MERGEFIELD Offer\_Code } = "" "We hope you will continue to use our award-winning software." "" }" }" } }

Conditional field(s) inserted	1
Less than 3 text – We hope you will continue to use our award-winning software. This may be on its own or as the default condition	1
W3 text – As a loyal customer we are happy to offer you a free upgrade to the TotalShield suite for the next year.	1
T3 text – As a loyal customer we are happy to offer you a free upgrade to the PremierShield suite for the next year.	1
P3 text – As a reward for your loyalty we can offer you a free download of our new MalwareZap application. Just visit our website for instructions.	1

Evie Bishop 9 Golf Road SWAINSWICK BA1 8SP	Millie Williamson 60 Sloe Lane CROWLE GREEN WR7 1XE	Ruby Simpson 82 Roker Terrace LATELY COMMON WN7 4SJ	Liam Yates 55 Annfield Rd BAYTHORN END CO9 1DP
Your subscription to PremierShield expires on 21-Jun. As a reward for your loyalty we can offer you a free download of our new MalwareZap application. Just visit our website for instructions	Your subscription to WebShield expires on 08-Jun. As a loyal customer we are happy to offer you a free upgrade to the TotalShield suite for the next year.	Your subscription to TotalShield expires on 20-Jun. We hope you will continue to use our award-winning software.	Your subscription to TotalShield expires on 29-Jun. As a loyal customer we are happy to offer you a free upgrade to the PremierShield suite for the next year. .
Amber Finch 9 High Street ASHBOCKING IP6 3PD	Charlie Harvey 41 Great Western Road LONGPARISH SP11 7WT	Sam Booth 93 Colorado Way RHYD-Y-FOEL LL22 4ZF	
Your subscription to WebShield expires on 12-Jun. We hope you will continue to use our award-winning software.	Your subscription to WebShield expires on 26-Jun. As a loyal customer we are happy to offer you a free upgrade to the TotalShield suite for the next year.	Your subscription to TotalShield expires on 14-Jun. As a loyal customer we are happy to offer you a free upgrade to the PremierShield suite for the next year.	

P3 text – 'offer Zap' to Evie Bishop	1
T3 text – 'offer Premier' to Sam Booth, Liam Yates	1
W3 text – 'offer Total' to Charlie Harvey, Millie Williamson	1
Less than 3 text 'Hope' to Amber Finch, Ruby Simpson	1
All/Only 7 letters – with consistent text – and fit for purpose	1

**[25]**