



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 October/November 2019 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

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.

Invoice date: 16/10/2019

	A	B	C	D	E	F	G	H	I	J	
1	Super-Disk-Sales							Less than	Discount rate		
2											
3	To:							10	0%		
4								20	5%		
5								30	10%		
6									20%		
7											
8											
9	Invoice										
10											
11	Product code	Number of Items	Make	Model	Capacity	Unit price					
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24	Total Items	0				Price before discount	€0.00				
25				Discount rate	0%	Discount	€0.00				
26						Total	€0.00				

Rows 1 and 9
 Cells A1 to G1 and cells A9 to G9 merged 1 mark
 Cells sans-serif centre aligned font 1 mark
 White 36 point text 1 mark
 Black background 1 mark
 Discount rate column (and cell) formatted as % 1 mark
 Rows 2, 8 and 10 row height less than row 3 1 mark
 Row 11
 Bold sans-serif centre aligned font 1 mark
 Vertically aligned to middle 1 mark
 and Row 24 wrapped text 1 mark
 Values printout is single page and fully visible 1 mark
 Gridlines, row and column headings displayed 1 mark

Mark from any printout
 Header Invoice date: and automated date on left 1 mark
 Footer Candidate details on right 1 mark

A Candidate, Z2999, 9999

Product code	Number of Items	Make	Model
		=IF(A12<>"", VLOOKUP(A12,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A12<>"", VLOOKUP(A12,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A13<>"", VLOOKUP(A13,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A13<>"", VLOOKUP(A13,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A14<>"", VLOOKUP(A14,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A14<>"", VLOOKUP(A14,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A15<>"", VLOOKUP(A15,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A15<>"", VLOOKUP(A15,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A16<>"", VLOOKUP(A16,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A16<>"", VLOOKUP(A16,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A17<>"", VLOOKUP(A17,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A17<>"", VLOOKUP(A17,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A18<>"", VLOOKUP(A18,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A18<>"", VLOOKUP(A18,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A19<>"", VLOOKUP(A19,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A19<>"", VLOOKUP(A19,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A20<>"", VLOOKUP(A20,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A20<>"", VLOOKUP(A20,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A21<>"", VLOOKUP(A21,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A21<>"", VLOOKUP(A21,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A22<>"", VLOOKUP(A22,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A22<>"", VLOOKUP(A22,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
		=IF(A23<>"", VLOOKUP(A23,SSD.csv!\$A\$2:\$E\$106,4,FALSE),"")	=IF(A23<>"", VLOOKUP(A23,SSD.csv!\$A\$2:\$E\$106,5,FALSE),"")
Total Items	=SUM(B12:B23)		

Make =IF() used 1 mark
 Condition like A12<>"", 1 mark
 VLOOKUP () used 1 mark
 * Cell reference \$A12 1 mark
 * External file SSD.csv 1 mark
 Correct range A2:E106 ... 1 mark
 ... as an absolute reference 1 mark
 Correct return column ,4 1 mark
 ,0 or ,False 1 mark
 ,"" 1 mark

Model, Capacity, Unit Price
 =IF(\$A12<>"", , "") 1 mark
 Model
 VLOOKUP(\$A12,SSD.csv!\$A\$2:\$E\$106,5,FALSE) 1 mark

Total items =SUM() 1 mark
 B12:B23 1 mark

Invoice date: 15/10/2019

	E	F	G	H	I	J
3						
4						
5						
6						
7						
8						
9	oice					
10						
11	Capacity	Unit price	Price			
12	=IF(A12<>"", VLOOKUP(A12,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A12<>"", VLOOKUP(A12,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B12<>"", B12*F12)			
13	=IF(A13<>"", VLOOKUP(A13,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A13<>"", VLOOKUP(A13,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B13<>"", B13*F12)			
14	=IF(A14<>"", VLOOKUP(A14,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A14<>"", VLOOKUP(A14,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B14<>"", B14*F12)			
15	=IF(A15<>"", VLOOKUP(A15,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A15<>"", VLOOKUP(A15,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B15<>"", B15*F12)			
16	=IF(A16<>"", VLOOKUP(A16,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A16<>"", VLOOKUP(A16,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B16<>"", B16*F12)			
17	=IF(A17<>"", VLOOKUP(A17,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A17<>"", VLOOKUP(A17,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B17<>"", B17*F12)			
18	=IF(A18<>"", VLOOKUP(A18,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A18<>"", VLOOKUP(A18,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B18<>"", B18*F12)			
19	=IF(A19<>"", VLOOKUP(A19,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A19<>"", VLOOKUP(A19,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B19<>"", B19*F12)			
20	=IF(A20<>"", VLOOKUP(A20,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A20<>"", VLOOKUP(A20,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B20<>"", B20*F12)			
21	=IF(A21<>"", VLOOKUP(A21,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A21<>"", VLOOKUP(A21,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B21<>"", B21*F12)			
22	=IF(A22<>"", VLOOKUP(A22,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A22<>"", VLOOKUP(A22,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B22<>"", B22*F12)			
23	=IF(A23<>"", VLOOKUP(A23,SSD.csv!\$A\$2:\$E\$106,3,FALSE))	=IF(A23<>"", VLOOKUP(A23,SSD.csv!\$A\$2:\$E\$106,2,FALSE))	=IF(B23<>"", B23*F12)			
24		Price before discount	=SUM(G12:G23)			
25	=IF(B24<I3,J3,IF(B24<I4,J4,IF(B24<I5,J5,J6))	Discount	=E25*G24			
26		Total	=G24-G25			
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						

Capacity
 VLOOKUP(\$A12,SSD.csv!\$A\$2:\$E\$106,3,FALSE) 1 mark

Unit price
 VLOOKUP(\$A12,SSD.csv!\$A\$2:\$E\$106,2,FALSE) 1 mark

Price
 =IF(\$B12<>"", B12*F12) 1 mark

Discount rate
 Nested IF with 3 tiers only 1 mark
 =IF(B24<I3,J3, ... 1 mark
 IF(B24<I4,J4, ... 1 mark
 IF(B24<I5,J5,J6) 1 mark

Price before discount
 =SUM(G12:G23) 1 mark
 Discount =E25*G24 1 mark
 Total =G24-G25 1 mark

Replication 5 columns replicated 1 mark
 Landscape, row and column headings and fully visible 1 mark

A Candidate: Z2998, 9999

Invoice date: 16/10/2019

Super-Disk-Sales

To:	Tawara Technology Solutions
	32 Acacia Avenue
	Tawara
	45673

Address and product data entry 100% accurate 1 mark
 Zip code left aligned 1 mark

Invoice

Product code	Number of items	Make	Model	Capacity	Unit price	Price
SSDB	10	Samsung	850 Evo	1024	€280.00	€2,800.00
SSD34	1	OZT	Vertex 4	256	€181.00	€181.00
Total items					Price before discount	€2,981.00
					Discount rate	5%
					Discount	€149.05
					Total	€2,831.95

Format Number of items, column as integer & currency in Euros with 2dp 1 mark
 Print area A1:G26, single page, no row/column headings & fully visible 1 mark

A Candidate, Z2999, 9999

Evidence document

EVIDENCE 1 - Question 13 – example answer:

Test number	Test type	Item of test data	Cell	Why selected	Expected outcome in G12
Test 1	Normal	SSD1	A12	First product in the data source	(e.g.) 840
		10	B12	Easy to calculate	84 Euros · B12

Top row - cell A12 Identified	1 mark
Right cell - Correct expected outcome of 84 Euros x B12	1 mark
Last row left cell - appropriate number for easy calculation	1 mark
Last row 2nd cell - refers to cell B12	1 mark
Last row 3rd cell - suitable reason for selection	1 mark

EVIDENCE 2 - Question 16

```
<table border=1>
  <tr>
    <td colspan=3> <h1>Super-Disk-Sales</h1></td>
  </tr>
  <tr>
    <td>HDD</td>
    <td>SSD</td>
    <td>Optical media</td>
  </tr>
  <tr>
    <td colspan=3></td>
  </tr>
</table>
```

2 · colspan = 3 in <tr> rather than <td>	1 mark
No closing speech marks in alt text	1 mark
h1 is closed but not opened	1 mark
HDD1.jpg has been called HDD1.mp4	1 mark

EVIDENCE 3 – Question 17:

```

193style9999.css - Notepad
File Edit Format View Help
/* A Candidate ZZ999 9999 */

table      {margin-left:auto;
            margin-right:auto;
            width:1200px;
            border-collapse:separate}

table,td   {border:2px solid #808000}

td         {padding-top:8px;
            padding-bottom:6px;
            padding-left:20px;
            padding-right:20px}

h1,h2,h3  | {color: #ffff00;
            font-family:"Times New Roman",Times,serif}

h1         {font-size:48pt;
            text-align:right}

h2         {font-size:24pt}

h3         {font-size:18pt;
            font-weight:bold}

```

Stylesheet 193style????.css		
	Correct filename & type	1 mark
Comments	/* Candidate details */	1 mark
table { }	margin-left:auto;	1 mark
	margin-right:auto;	1 mark
	width:1200px;	1 mark
	border-collapse:separate	1 mark
table,td { }	border:2px	1 mark
	solid	1 mark
	#808000	1 mark
These 3 elements in joint section		1 mark
td { }	padding-top:8px;	1 mark
	padding-bottom:6px;	1 mark
	padding-left:20px;	1 mark
	padding-right:20px	1 mark
h1, h2, h3 { }	color: #ffff00	1 mark
	font-family: Times New Roman	1 mark
	In speech marks	1 mark
	,Times	1 mark
	,serif	1 mark
These 5 elements in joint section		1 mark
h1 { }	font-size:48pt	1 mark
	text-align:right	1 mark
h2 { }	font-size:24pt	1 mark
h3 { }	font-size:18pt	1 mark
	font-weight:bold	1 mark

EVIDENCE 4 – Question 18:

SSDs from Super-Disk-Sales

A Solid State Drive is more frequently referred to as an SSD. It is a form of mass storage device similar to a hard disk drive (HDD). It supports reading and writing data (unlike some optical drives) and is non-volatile (maintains stored data when the machine is turned off). It currently uses NAND based flash memory.

SSDs have much quicker read and write speeds than HDDs. They have no moving parts. With a HDD the disk has to "spin up" from its sleep state and they don't need to move a drive head to different parts of the drive to access data. As HDDs are used their read speed performance diminishes as data is often fragmented on the drives. This means a single file may be located in many different places on the disk and the read head has to move to each location in order to retrieve the data. As SSDs are not magnetic they do not suffer data loss if strong magnetic fields are close to the drive.

Despite all these positives, SSDs are



different parts of the drive to access data. As HDDs are used their read speed performance diminishes as data is often fragmented on the drives. This means a single file may be located in many different places on the disk and the read head has to move to each location in order to retrieve the data. As SSDs are not magnetic they do not suffer data loss if strong magnetic fields are close to the drive.

Despite all these positives, SSDs are much more expensive than HDDs, in some cases more than 10 times as expensive per gigabyte. This means they often have smaller capacities than HDDs. They also have a limited number of write cycles, which may cause their performance to degrade over time. As this technology is relatively new no-one has reliable degradation data, but newer SSDs have improved reliability and should last several years before any reduction in performance can be seen. It will not be long before SSDs replace HDDs and the HDDs only location will be in museums alongside floppy disk drives.

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Web page creation by Hothorse Design
Last edited by A Candidate, 22999, 1999

EVIDENCE 4 – Question 18:

Stylesheets attached	
SSDstyle1 attached in head section ...	1 mark
... 193style9999 attached below SSDstyle1	1 mark

```

<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet" type="text/css" href="SSDstyle1.css">
<link rel="stylesheet" type="text/css" href="193style9999.css"> </head>
<body>
  <table border="1" width=1400>
    <tr height=80>
      <td colspan=3>
        <h1>SSDs from Super-Disk-Sales</h1>
      </td>
    </tr>
    <tr height=600>
      <td colspan=2 width=800>
        <h2>A Solid State Drive is more frequently referred to as an SSD.
        It is a form of mass storage device similar to a hard disk drive (HDD). It
        supports reading and writing data (unlike some optical drives) and is non-
        volatile (maintains stored data when the machine is turned off). It
        currently uses NAND based flash memory.</h2>
        <h2>SSDs have much quicker read and write speeds than HDDs. They
        have no moving parts. With a HDD the disk has to "spin up" from its sleep
        state and they don't need to move a drive head to different parts of the
        drive to access data. As HDDs are used their read speed performance
        diminishes as data is often fragmented on the drives. This means a single
        file may be located in many different places on the disk and the read head
        has to move to each location in order to retrieve the data. As SSDs are not
        magnetic they do not suffer data loss if strong magnetic fields are close
        to the drive.</h2>
        <h2>Despite all these positives, SSDs are much more expensive
        than HDDs, in some cases more than 10 times as expensive per gigabyte. This
        means they often have smaller capacities than HDDs. They also have a
        limited number of write cycles, which may cause their performance to
        degrade over time. As this technology is relatively new no-one has reliable
        degradation data, but newer SSDs have improved reliability and should last
        several years before any reduction in performance can be seen. It will not
        be long before SSDs replace HDDs and the HDDs only location will be in
        museums alongside floppy disk drives.</h2>
      </td>
      <td width=600>
        
      </td>
    </tr>
    <tr height=80>
      <td width=400>
        <h3>Homepage</h3>
      </td>
      <td width=400>
        <h3><a
href="mailto:SDS@cambridgeinternational.org?subject=SSD%20enquiry">Contact
us</a></h3>
      </td>
    </tr>
    <td>
      <h3>Web page creation by Hothouse Design</h3>
      <h3>Last edited by A Candidate, ZZ999, 9999</h3>
    </td>
  </tr>
  </table>

```

```
</tr>  
</table>  
</body>  
</html>
```