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Cambridge Assessment International Education

Cambridge International AS & A Level

INFORMATION TECHNOLOGY **9626/04**

Paper 4 Advanced Practical **October/November 2021**

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 October/November 2021 series for most Cambridge IGCSE™, Cambridge International A and AS Level 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.

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Task 1 – Graphics *Lens*



Bitmap (Background1) is cropped – similar to area shown in the question paper and fills the canvas.	1
A circle for the lens is drawn.	1
The circle has a black outline that matches the thickness shown in the question paper.	1
The proportion of the background covered by the circle matches the area shown in the question paper.	1
Handle is correct and to the edge.	1
The area inside the circle appears to be magnified. This must be for the whole lens and not a recreation of the background.	1
There is a degree of magnification that matches that shown in the question paper.	1
The text “Malwa” is the correct size and appears to be part of the magnified background.	1
… Not all of the last ‘a’ in “Malwa” is visible.	1
...the “Malwa” text is coloured red.	1
There are 2 ‘light blooms’ with defined shapes but no outlines.	1
...the ‘light blooms’ are in the correct positions as shown in the question paper.	1
...the ‘light blooms’ are the correct shape (crescents) as shown in the question paper.	1
…the blooms have the same proportions as those shown in the question paper.	1
…the blooms are partially transparent.	1

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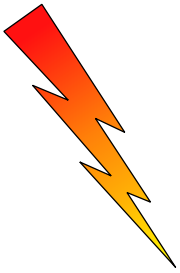
Task 2 – Vector Graphics

Clouds



The clouds overlap in the correct order.	1
The clouds have a clear thin black unbroken outline.	1
The clouds have a uniform light grey fill.	1
There is a darker grey underside to one cloud (with no outline) that matches the edge of the cloud as shown in the question paper.	1
There are darker grey undersides to both clouds (with no outlines) that match the edges of the clouds as shown in the question paper.	1
The clouds consist of a reasonable number of smooth convex lobes.	1
…All three clouds have a very similar shape.	1
The image of the clouds has a transparent background.	1

Bolt



The image of the bolt tapers has a single outline and tapers as shown in the question paper.	1
The bolt has 3 tapering stages as shown in the question paper.	1
The bolt has accurate and parallel ‘Z’ angles.	1
The bolt has a gradient fill.	1
The gradient fill follows the shape of the bolt vertically and changes from red to yellow.	1
The image of the bolt has a transparent background.	1
Both images (Clouds and Bolt) are saved as .svg files.	1

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Task 3 – Animation
Malware – Zap



The size of the animation is 500px by 400px.	1
The animation starts with the green background.	1
The green and black backgrounds alternate (seamlessly) 3 times before looping.	1
The green and black backgrounds alternate with regular 0.5 sec timings.	1
A portion of the clouds image is shown in the top left corner of the frame.	1
The clouds image is static throughout the animation.	1
The black background is showing when the bolt appears.	1
The bolt appears from behind the clouds image.	1
The bolt appears from behind the clouds image in one smooth movement.	1
The bolt continues to travel across the frame smoothly and in the correct straight line.	1
The bolt fully exits the frame smoothly.	1
The correct ‘Malware’ text is displayed,	1
The text “Malware” rises smoothly from the bottom to the correct level.	1
The text “Malware” fades in smoothly.	1
The text “Malware” and the image of the bolt cross paths.	1
The text “Malware” is fully visible as the paths cross.	1
The text “Malware” appears to explode as the image of the bolt touches the text.	1
The text “Malware” appears to explode into individual letters.	1
...All the letters of the text appear to grow smoothly.	1
...All the letters of the text appear to grow to at least twice their original size.	1
The individual letters of the text appear to explode in different directions with different orientations.	1
The letters of the text fade out.	1
Finally, only the clouds image on the black background is visible for one 0.5 second flash.	1

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The entire animation ‘loops’ continuously.	1
There is no discernible hiatus as the animation loops.	1

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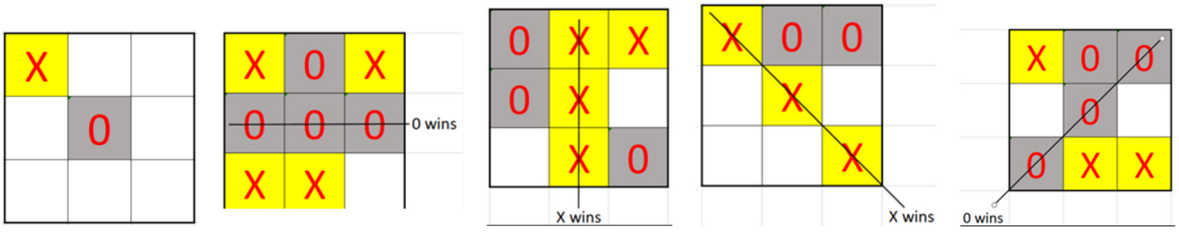
Task 4 – Spread sheet

TTT_1



A 3 × 3 grid of square cells is created.	1
The cells are a suitable size and can contain 72 pt. text.	1
There are 3 merged cells in the 2nd row above with the same height as the squares in the grid.	1
All the internal borders of the cells are displayed.	1
The external borders of the grid are thicker than the internal borders.	1
Each cell in the grid will only accept Xs or 0s (Zero not O),	1
All cells have a yellow fill when X is entered.	1
All cells have a grey fill when 0 is entered.	1
All Xs and 0s are displayed in a red 72pt font.	1
All cells adjacent to the grid display blank for no entries.	1
Testing – 1 horizontal line win displays the correct results for X and 0.	1
Testing – all horizontal line wins display the correct results for X and 0.	1
Testing – all horizontal line wins display the correct results in correct cells.	1
Testing – 1 vertical line win displays the correct results for X or 0.	1
Testing – All vertical line wins display the correct results for X or 0.	1
Testing – All vertical line wins display the correct results in the correct cells.	1
Testing – Left/Right diagonal win displays the correct result for X or 0.	1
Testing – Right/Left diagonal win displays the correct result for X or 0.	1
Testing – Left/Right diagonal win displays the correct results in the correct place.	1
Testing – Right/Left diagonal win displays the correct results in the correct place.	1

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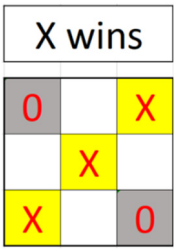
TTT_2



The external borders of the merged cells match the external borders of the grid and are thicker than the internal borders.	1
The merged cell displays blank for no entries in the grid (if formula present).	1
The merged cell displays “X wins” when correct.	1
The merged cell displays “0 wins” when correct.	1
The cells adjacent to the grid display blank if the merged cell display is correct.	1

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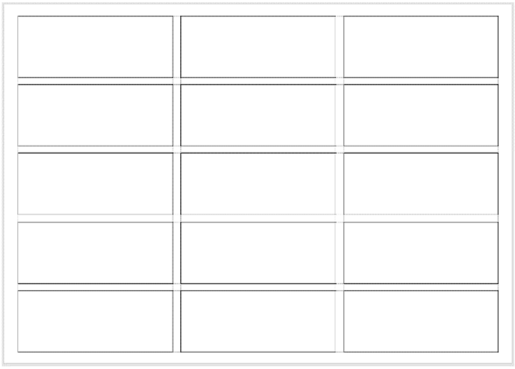
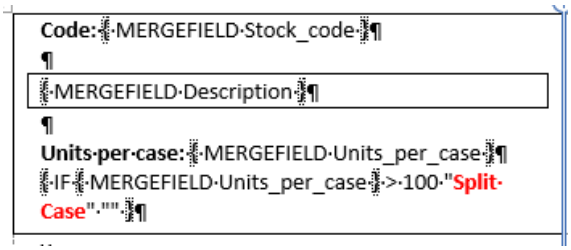
Task 5 – Mail Merge

SuppliesMergeDoc_



The labels are configured in a 5 x 3 grid.	1
The labels are evenly spaced.	1
The grid is centred both horizontally and vertically on the page.	1
All the borders are shown on each label.	1
All the labels are separated by even margins.	1



The “Description” mergefield is shown in a box.	1
The text “Code”: is correct and is emboldened.	1
The text “Units per case”: is correct and is emboldened.	1
The merge document is saved as SuppliesMergeDoc_	1
The <<stock code>> mergefield has been inserted correctly.	1
The <<Description>> mergefield has been inserted correctly.	1
The <<Units per case>> mergefield has been inserted correctly.	1

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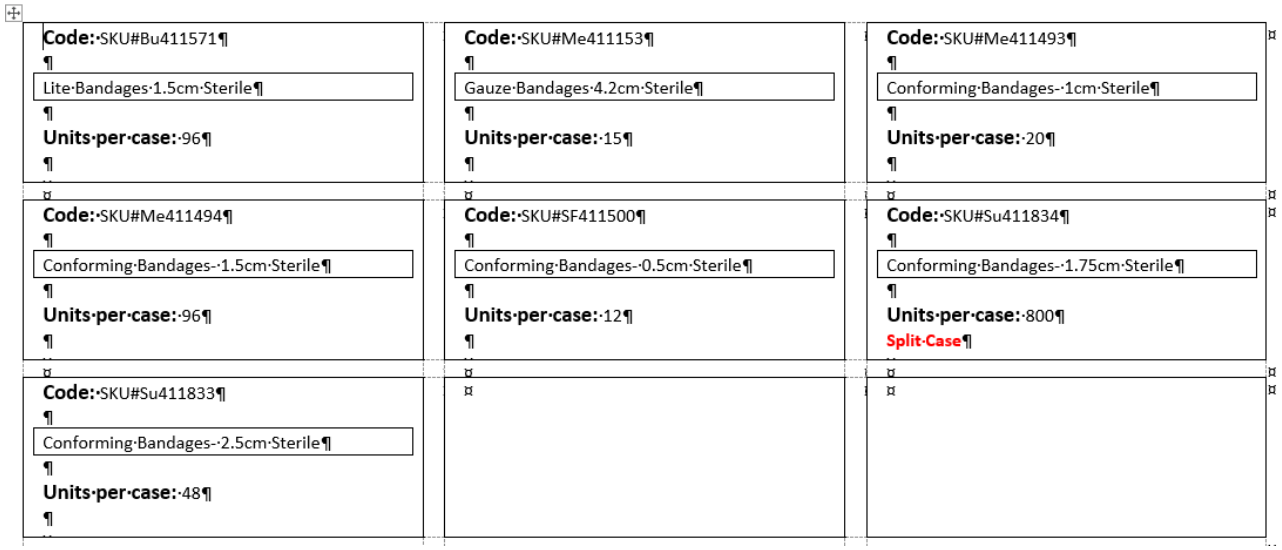
SuppliesLabels_



There are 15 labels (per page) in the document of merged labels	1
Any label where “Units per case” >100 displays “Split Case”.	1
All instances of “Split case” are displayed in a bold, red font	1
The merged document is a single page with 7 filled labels.	1
The labels only list “Bandages”.	1
All the “Bandages” listed display “Sterile”.	1
None of the “Bandages” listed display “Non-Sterile”.	1
Only all the correct labels are displayed.	1

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Task 6 – JavaScript

ItemCounter_1_ and ItemCounter_2





The Webpage counts the button clicks and displays the correct text in the correct place.	1

```
<script>
var count=0;
var MatchCase="Item";

function Count_Items() {

count==count++;

if (count >1){MatchCase="Items"};

document.getElementById("display Count
here").innerHTML = count+" "+MatchCase+"
Inspected";

}
</script>
```

There is a variable to count the button clicks declared.	1
A function() to process the clicks is declared.	1
The function is named Count_Items()	1
A valid method for incrementing the count is used.	1
The document.getElementById method is used to modify the innerHTML element.	1
The id attribute "display Count here" is used as the innerHTML element to be modified.	1
There is evidence of an attempt to match the “Item/Items” case.	1
“Item/Items” alternatives clearly identified in the code.	1
A valid conditional statement is used to match the Item/Items case.	1

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