Cambridge International AS & A Level

**Cambridge Assessment International Education**
Cambridge International Advanced Subsidiary and Advanced Level

**INFORMATION TECHNOLOGY** **9626/04**

Paper 4 Advanced Practical **May/June 2018**

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 May/June 2018 series for most Cambridge IGCSE™, Cambridge International A and AS Level and Cambridge Pre-U 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.

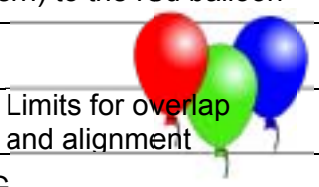
GENERIC MARKING PRINCIPLE 5:

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.

| | | Mark |
|---|---|---|
| **Task 1** | The Body shape is a tapering oval – has vertical symmetry, top wider, all curves | **1** |
| **Graphics** | The neck shape is a truncated cone with curved bottom edge | **1** |
| | The shapes are combined – have a single outline | **1** |
| | The outline is 1pt or hairline in thickness | **1** |
| | The outline is black/dark | **1** |
| | The balloon has red fill | **1** |
| | A white/pale light bloom is attempted | **1** |
| | Radial fill used for bloom (or balloon) | **1** |
| | The light bloom is in top right quadrant and in proportion<br>Allow if bloom is 'off-centre' and towards top right<br>Bloom may occupy up to 1/2 of the balloon | **1** |
| | The string looks tied and has 'smooth' tail | **1** |
| | The string is correct thickness plus a semblance of a knot/wrap | **1** |
| | The sting length is 2–4 times length of neck | **1** |
| | The balloon has a green fill | **1** |
| | A light bloom is attempted | **1** |
| | The light bloom in position and in proportion | **1** |
| | The string is the same as the string on the red balloon | **1** |
| | The green balloon is identical (in shape, size and fill pattern) to the red balloon | **1** |
| | The balloon has a blue fill | **1** |
| | A light bloom is attempted | **1** |
| | The light bloom in position and in proportion | **1** |
| | The string is the same as the string on the red balloon | **1** |
| | The blue balloon is identical (in shape, size and fill pattern) to the red balloon | **1** |
| | The 3 balloons are in correct order and layer – R G B | **1** |
| | The 3 balloons overlap proportions are correct | **1** |
| | The 3 balloons have the correct vertical positions R B G | **1** |
| | The text **TTS *is* 10! is** added – 100% as QP | **1** |



| | | Mark |
|---|---|---|
| | The text is in a **Script** font | **1** |
| | The text fits consistently on a **Curved** path **…** | **1** |
| | … The path is invisible | **1** |
| | The text is in the correct position and the correct size<br>Text must reach boundaries | **1** |
| | The text **A big thank you to all our loyal clients** is added<br>100% as shown in QP | **1** |
| | The text is in the correct layout – 2 lines as shown<br>and in the same font | **1** |
| | The text is in the correct position and the correct size<br>Text must reach boundaries | **1** |
| | The text has a red fill with a (thin) black outline | **1** |
| | The image is a bitmap and is transparent | **1** |
| | | **35** |

| | | Mark |
|---|---|---|
| **Task 2** | The red balloon is used for the BalloonBurst image | **1** |
| **Animation** | A suitable burst is created with enough separate fragments – 5+ … | **1** |
| | … each piece with an outline (separate pieces created not just lines erased) | **1** |
| | The balloons are off the screen at the start | **1** |
| | The blue balloon appears first and rises into full view … | **1** |
| | … The green balloon appears second and rises into full view … | **1** |
| | … The red balloon rises into view last | **1** |
| | The balloons stop at the top of the frame | **1** |
| | The blue and green balloons take approximately 2 seconds to rise to the top of the frame | **1** |
| | The red balloon rises more slowly and takes slightly longer | **1** |
| | All 3 balloons rise smoothly and vertically only | **1** |
| | The balloons have same aspect ratio as the individual images and are not distorted | **1** |
| | The frame size matches the QP and is only 3 balloons in width | **1** |

| | | Mark |
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| | The frame size is less than 1.5/2 balloons high | **1** |
| | The red balloon is in the centre | **1** |
| | The red balloon overlaps the other 2 balloons slightly (with no rectangular white space) | **1** |
| | The red balloon is replaced by the BalloonBurst image | **1** |
| | The BallonBurst image only appears when all 3 balloons haven risen to the top of the frame | **1** |
| | The text **TTS is 10!** appears – 100% as shown in the QP | **1** |
| | The text appears after a slight delay – 1/2 secs at least | **1** |
| | Initially the text fits centrally inside the BalloonBurst image | **1** |
| | The text grows smoothly | **1** |
| | The growth takes about 1 second to reach full size | **1** |
| | The final size of the text almost covers all 3 balloons at least | **1** |
| | The animation is saved as an animated gif file or an html file | **1** |
| | | **25** |

| | | Mark |
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| **Task 3** | The original page is the same and frame fits balloon (if any results) | **1** |
| **JavaScript** | The frame is blank before buttons are clicked (if any results) | **1** |
| | Red balloon shows when 'Red' button is clicked | **1** |
| | Green balloon shows when 'Green' button is clicked | **1** |
| | Blue balloon shows when 'Blue' button is clicked | **1** |
| | All the balloons are the same size | **1** |
| | All the balloons are in the same position | **1** |
| | The <script> tag is inserted | **1** |
| | The </script> tag is paired correctly | **1** |
| | The tags and code are wholly contained in the head or the body of the html | **1** |
| | A function to ShowRed() is created – allow this mark for use of function() { } | **1** |
| | A valid method to display the image is used e.g. document.getElementById | **1** |

| | | Mark |
|---|---|---|
| | The Id is set to the existing placeholder e.g. Id = "balloon" | **1** |
| | The image source matches the image saved e.g. src= 'RedBalloon' –allow a follow through | **1** |
| | A function to ShowGreen() is created | **1** |
| | The image source matches the image saved e.g. src= 'GreenBalloon' –allow a follow through | **1** |
| | A function to ShowBlue() is created | **1** |
| | The image source matches the image saved e.g. src= 'BlueBalloon' – allow a follow through | **1** |
| | The comment syntax is correct – //... | **1** |
| | … The comment is appropriate | **1** |
| | | **20** |

| | | Mark |
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| **Task 4a** | **Comments must cover all 3 boxes and cite at least 2 'Poor' issues from 2 boxes for full marks. – example comments** | **1** |
| **Chat Box** | Box A – **Good**: Print conversation, attach a file, clear instructions, room to follow conversation. | **1** |
| | Poor- lack of scroll bars to view previous text | **1** |
| | Box B – Poor: too simple not enough space to follow conversation | **1** |
| | Box C – **Good:** See queue, possible use of webcam and sound, room to follow conversation. | **1** |
| | Poor: Too techie, not all icons self-explanatory. | |
| | Candidates must recommend Box A | **1** |
| | | **6** |

| | | | Mark |
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| **Task 4b** | Alert | Pop-up boxes | **1** |
| **JavaScript** | Prompt | | **1** |
| | Confirm | | **1** |
| | **&&** (*AND – symbols only)* | Logical Operators | **1** |
| | **\|\|** (*OR – symbols only)* | | **1** |
| | **!** (*NOT – symbols only)* | | **1** |
| | Two from:<br>**for** **for/in**<br>**while** **do/while** | Loop types | **1**<br>**1** |
| **Task 4c** | Increase the fps (frames per second) | Speed up animation | **1** |
| | Reduce the number of frames – (not keyframes) | | **1** |
| | .swf .mov dynamic html - | Animation file types | **1** |
| | | | **11** |

| | | Mark |
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| **Task 5** | Evidence of valid selection of E3, E5, M3, M4 staff as recipients | **1** |
| **Mail merge** | Evidence of efficient selection – e.g. use of wildcards or SKIPIFs | **1** |
| | Date inserted as a field with **03-05-2018 dd-MM-yyyy** format | **1** |
| | Given_name & Family_name mergefields are inserted with correct spacing | **1** |
| | Branch mergefield inserted with correct spacing | **1** |
| | Given name mergefield inserted with correct spacing (and comma not deleted) | **1** |
| | A conditional field(s) is inserted for displaying the required text | **1** |
| | The conditional field uses a comparison on the Pay_Scale field (or follow through from data source) | **1** |
| | Wildcard on Pay_Scale criterion is used e.g. = E* or E? M* or M? | **1** |
| | Valid/correct conditions are set to display 09:00 hrs and 14:00 hrs … | **1** |
| | … an efficient and valid single conditional mergefield is used | **1** |
| | Letters to the correct recipients with the correct text are created | **1** |
| | …the letter to the instigator, (Joel Knight) is omitted, and the letters are consistently formatted and fit for purpose<br>Holly Harrison(14), Harumi Valencia(9), Endre Mekek(9), Jessica Wulf(14) allow Joel Knight(9) | **1** |
| | | **13** |

| | |
|---|---|
| **Total Marks** | **110** |