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Cambridge Assessment International Education

Cambridge International AS & A Level

INFORMATION TECHNOLOGY **9626/04**

Paper 4 Advanced Practical **May/June 2022**

MARK SCHEME

Maximum Mark: 90

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.

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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	Answer	Marks
See Task 1 – Balloon1 below for an example of the balloon image		
1 – Balloon1	The balloon is cut-out, not bounded and with no sky in the background	1
	The body shape is whole with no indentations	1
	The body is mostly smooth with no continuous second outline	1
	The body is completely smooth with no irregularities/blemishes	1
	The basket is intact	1
	The space above the basket is transparent	1
	The image size is 3000px by 2250px	1
	The image has a transparent background	1

Task	Answer	Marks
See Task 1 – Scene2 below for an example of the sky repair		
1 – Scene2	The sky previously occupied by the balloon is repaired	1
	The repair to the sky is undetectable	1

Task	Answer	Marks
See Task 1 – Scene3_ below for examples of post, fence and wire removal		
1 – Scene3	There is evidence of an attempt to remove the wires	1
	No Wires are to be seen and the background trees are intact	1
	The pylon post has been removed	1
	Nothing of the pylon post remains	1
	Posts to the right of the pylon have been removed	1
	No posts to right of the pylon are visible	1
	Posts to left of the pylon have been removed	1
	No Posts to left of the pylon are visible	1
	The fence rail is not visible	1
	The buildings and the foreground trees are intact *The nearby posts must have been removed*	1

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Task	Answer	Marks
See Task 1 – Scene4 below for an example of the image		
1 – Scene4	The 'Sunset sky' image has been used to replace the original sky	**1**
	The gaps **between** trees show the sunset sky	**1**
	The larger gaps **in** trees show sunset sky – *not filled in or painted*	**1**
	The sunset sky is shown behind all foliage – *not painted*	**1**
	There are no blue outlines to any foliage	**1**

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Task	Answer	Marks
See Task 2 – Balloon2 below for examples of vector graphic and details		
2 – Balloon2	The image is saved as a svg file The image is bulbous with a continuous curved outline	**1**
	The balloon body is symmetrical	**1**
	The balloon has 4/5 distinct outlined grey vertical panels	**1**
	The balloon panels are curved to match example in the QP	**1**
	All panel lines reach the boundaries and do not exceed	**1**
	There are small grey top panes which fit the panels and the red panes	**1**
	The central grey panes and panels have an overall light/dark/light radial fill	**1**
	The balloon has alternate upper red panes which fit with the panels	**1**
	The upper red panes have distinct outlines with correctly curved tops	**1**
	The upper red panes have left/right red/black gradient fills	**1**
	The balloon has alternate lower red panes	**1**
	The lower red panes fit the balloon panels	**1**
	The lower red panes have curved tops	**1**
	The lower red panes have left/right red/black gradient fills	**1**
	Lower cone is symmetrical with curved sides	**1**
	There is a white curved line shown in the cone	**1**
	The white line is evenly dashed and in the correct position	**1**
	The basket has 2 vertical and 1 horizontal suspension lines	**1**
	The basket has rounded bottom corners	**1**
	The basket has a pattern or gradient fill	**1**
	There are 3 passengers and a red block shown in the basket	**1**
	The position and shape of the passengers is correct	**1**
	The colour of the passengers is correct	**1**
	Text is correct, in the correct position and is approximately the correct size.	**1**
	The panel lines can be seen through the text	**1**

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Task	Answer	Marks
See Task 3 – pivot tables below for screenshots of the pivot tables		
Merit calculations	The data is referenced in a separate sheet or workbook	**1**
	A valid method including the use of Pivot tables or SUMIF() is used for the Merits data	**1**
	A valid method including the use of Pivot tables or SUMIF() used for the Demerits data	**1**
	A valid method including the use of Pivot tables or SUMIF() used for the Staff Merits data	**1**
	A valid method including the use of Pivot tables or SUMIF() used for the Staff Demerits data	**1**

Task	Answer	Marks
See Task 3 – functions below for examples of functions		
3 – Functions and Data	The House Merits table is White/Green with borders and the correct text	**1**
	There is a valid **replicable** reference **or** formula **or** link to the Merits data	**1**
	The House Demerits table is White/Red with borders and the correct text	**1**
	There is a valid **replicable** reference **or** formula **or** link to the Demerits data	**1**
	The Staff table is White/Green/Red with borders and the correct text	**1**
	There is a valid **replicable** reference **or** formula **or** link to the Staff data	**1**
	The correct values for merits are: 233, 220, 188, 201	**1**
	The correct values for DeMerits are: 27, 6, 8, 8	**1**
	The correct values for Staff Merits are: 115, 72, 74, 95, 41, 95, 33, 35, 134, 90, 58	**1**
	The correct values for staff DeMerits are: 13, 6, 0, 2, 1, 8, 0, 1, 10, 5, 3	**1**

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Task	Answer	Marks
See Task 3 – charts and tables below for examples of charts and tables, and detail		
3 – Charts	The dashboard colour is blue with no grid The title is correct and is the correct size and colour	**1**
	The Merits chart is shown The title is correct and is the correct size and colour	**1**
	The Merits chart has 4 columns with field buttons, legends and axes titles hidden	**1**
	The Demerits chart is shown The title is correct and the is correct size and colour	**1**
	The Demerits chart has 4 columns with field buttons, legends and axes titles hidden	**1**
	The Staff chart is shown The title is correct and is the correct size and colour	**1**
	The field buttons and axes titles are hidden The correct legend is shown in the correct place	**1**
	The chart types are as shown in the question paper The column colours are correct	**1**
	All chart areas have the correct Yellow/white gradient fill and gridlines	**1**
	The column labels are consistent and set to 12pt	**1**

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Task	Answer	Marks
See Task 4 below for examples and detail		
4	The data for March is appended to the Jan/Feb data in a separate sheet or workbook	**1**
	The March data column headings are excluded from the appended data	**1**
	There are the correct number of records and the data is intact	**1**
	The Months selection button is shown on the Merits and Demerits charts	**1**
	Only the Months selection button is shown	**1**
	Selection of the Month works for the Merits table – the data changes	**1**
	Selection of the Month works for the Merits chart – the data changes	**1**
	Selection of the Month works for the Demerits table – the data changes	**1**
	Selection of the Month works for the Demerits chart – the data changes	**1**
	The correct linked text for months is shown in the Merits table	**1**
	The correct linked text for months is shown in the Demerits table	**1**
	The correct linked text for months is shown on the Merits chart	**1**
	The correct text for months is shown on the Demerits chart	**1**
	The Merits chart vertical axis is fixed to 350	**1**
	There are no field buttons on the Staff chart	**1**

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Task 1 – Balloon1_



Task 1 – Scene2_



Task 1 – Scene3_



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Task 1 – Scene4_



Task 2 – Balloon2_



Task 3 – Pivot tables



Row Labels	Sum of Merits
Baratheon	223
Lannister	196
Stark	173
Tully	191

Row Labels	Sum of DeMerits
Baratheon	23
Lannister	6
Stark	8
Tully	7

Row Labels	Sum of Merits	Sum of DeMerits
MAR	104	9
ATR	70	6
GRA	66	0
GAR	86	2
JMI	37	1
LEX	94	8
LHO	33	0
PFR	35	1
SMO	125	10
VCR	84	4
VMA	49	1

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Task 3 – Functions

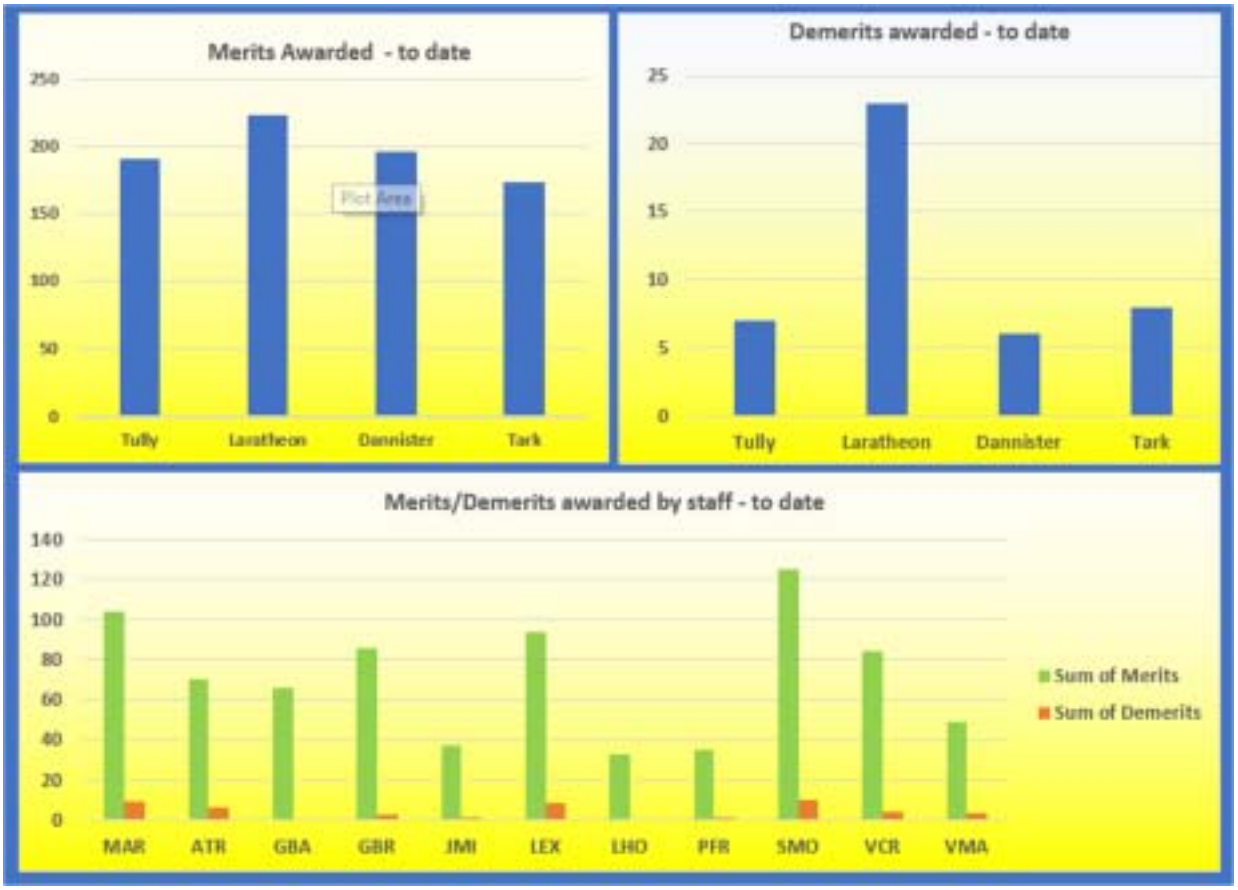
Tawara High School Merit/DeMerit records

House	Merits Total
='Merits pivot'!$A4	=GETPIVOTDATA("Merits",'Merits pivot'!$A3,"House",A6)
='Merits pivot'!$A5	=GETPIVOTDATA("Merits",'Merits pivot'!$A4,"House",A7)
='Merits pivot'!$A6	=GETPIVOTDATA("Merits",'Merits pivot'!$A5,"House",A8)
='Merits pivot'!$A7	=GETPIVOTDATA("Merits",'Merits pivot'!$A6,"House",A9)

House	DeMerits Total
=DeMeritsPivot!$A4	=GETPIVOTDATA("DeMerits",DeMeritsPivot!$A3,"House",A12)
=DeMeritsPivot!$A5	=GETPIVOTDATA("DeMerits",DeMeritsPivot!$A4,"House",A13)
=DeMeritsPivot!$A6	=GETPIVOTDATA("DeMerits",DeMeritsPivot!$A5,"House",A14)
=DeMeritsPivot!$A7	=GETPIVOTDATA("DeMerits",DeMeritsPivot!$A6,"House",A15)

Staff	Merits	DeMerits
=Staff!A4	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A18)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A18)
=Staff!A5	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A19)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A19)
=Staff!A6	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A20)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A20)
=Staff!A7	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A21)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A21)
=Staff!A8	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A22)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A22)
=Staff!A9	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A23)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A23)
=Staff!A10	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A24)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A24)
=Staff!A11	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A25)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A25)
=Staff!A12	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A26)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A26)
=Staff!A13	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A27)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A27)
=Staff!A14	=GETPIVOTDATA("Sum of Merits",Staff!$A$3,"Awarded_by",A28)	=GETPIVOTDATA("Sum of DeMerits",Staff!$A$3,"Awarded_by",A28)

Task 3 – Charts and tables



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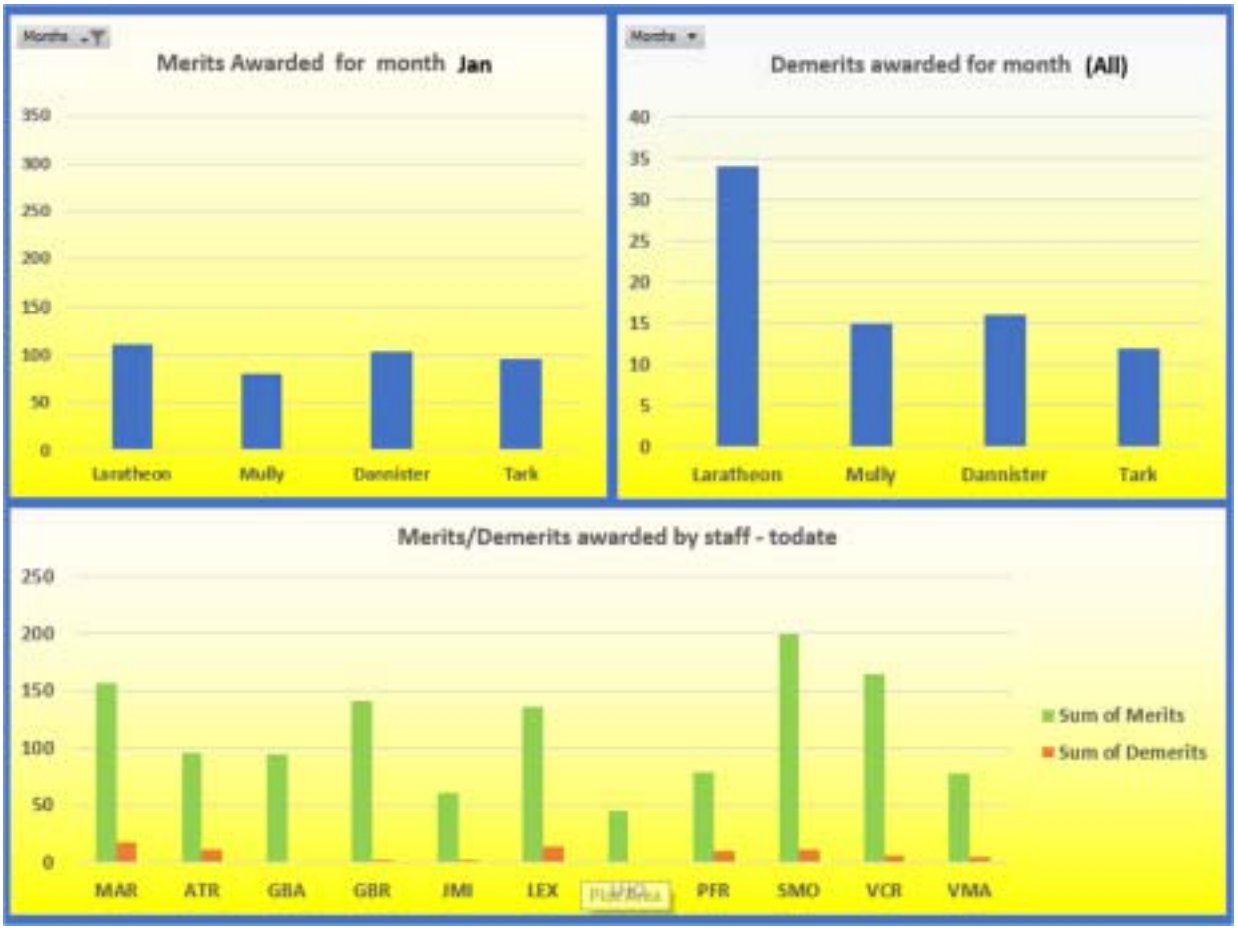
House	Merits Total
Laratheon	233
Dannister	220
Tark	188
Mully	201

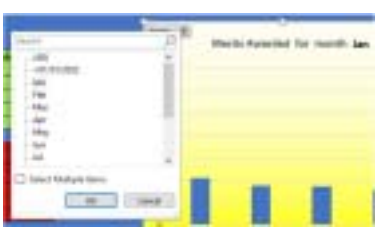
House	Demerits Total
Laratheon	27
Dannister	6
Tark	8
Mully	8

Staff	Merits	Demerits
MAR	115	13
ATR	72	6
GBA	74	0
GBR	95	2
JMI	41	1
LEX	95	8
LHO	33	0
PFR	35	1
SMO	134	10
VCR	90	5
VMA	58	3

Task 4

607	1636 Louise	Burgess	Lannister	2	Sports	ATR	31/03/2022
608	358 Sarah	Mistry	Tully	2	Academic	VCR	31/03/2022

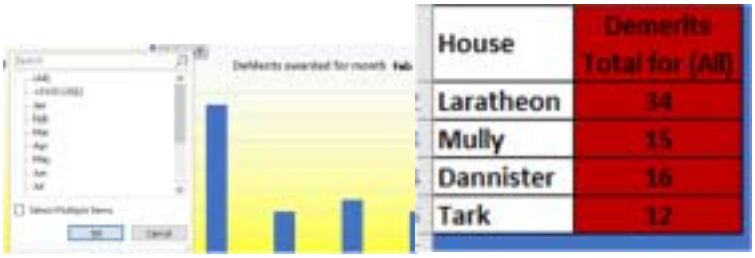




House	Merits for Jan
Laratheon	112
Mully	81
Dannister	104
Tark	96

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House	Demerits Total for (All)
Laratheon	34
Mully	15
Dannister	16
Tark	12



