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Mark Scheme (Results)

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Level

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Question number		Answer	Additional guidance	Mark
1 (a)		Award one mark for each descriptive point, up to a maximum of two marks for justification / expansion.		2
	A1	<ul style="list-style-type: none"> It refreshes/changes the web page (1) after 5 seconds (1). 		
	A2	<ul style="list-style-type: none"> It redirects to another URL/http://www.nasa.gov (1) after a specified amount of time (1). 		

Question number		Answer	Additional guidance	Mark
1 (b)		Code: <pre><h2><u>All About Pluto</u></h2> There are 8 planets in our solar system. <i>Pluto is classified as a dwarf planet.</i> Some scientists think Pluto contains the ingredients for life. <i>Pluto is made up of mainly rock and ice.</i> Pluto's day is 153.3 hours long. </pre>		2
		Award one mark for each correction.		
	B1	Underline tag opened correctly on heading <u> (1)		
	B2	italic tags must be closed correctly on second bulleted item </i> tag used correctly (1)		

Question number	Answer	Additional guidance	Mark
1 (c)	Complete code is <div style="border: 2px solid black; padding: 10px; width: fit-content; margin: 10px auto;"> <pre><audio controls> <source src="space.mp3" type="audio/mpeg"> </audio></pre> </div>		2
	C1 Award one mark for the correct code for the audio controls <audio controls> </audio> (1)	Accept type = "audio/mp3"	
	C2 Award one mark for specifying the correct source <src="space.mp3"> (1) OR < src="space.mp3" type="audio/mpeg"> (1)	May use source/src	

Question number	Answer	Additional guidance	Mark
1 (d)	Award one mark for each point in a linked explanation.	Named tag must match its use	2
	D1 D2 <ul style="list-style-type: none"> • The <iframe> tag (1) can be used to embed another document in a fixed sized frame (1). • The <object> tag (1) can be used to embed multimedia objects (1). • The <embed> tag (1) defines a container for external applications/plugin-ins (1) 		

Question number	Answer	Additional guidance	Mark
2 (a)	<div data-bbox="907 308 1301 726" data-label="Code-Block"> <pre> h1 { color:white; font-size:50px; } p { text-align:right; padding:20 px; } </pre> </div> <p data-bbox="472 770 1532 804">Award one mark for each correct use of CSS up to a maximum of four marks.</p> <p data-bbox="472 852 837 885">Accept any format for CSS.</p>		4
	A1 Set the colour for h1 to be white (1)	Accept any format for colour	
	A2 Set the h1 to be 50px (1)		
	A3 Set all <p> text to be right-aligned (1)		
	A4 Set paragraph padding to 20px (1)		

Question number		Answer	Additional guidance	Mark
2 (b)		Code is: <pre>img:hover { opacity: .5; }</pre>		2
		Other solutions are possible.		
	B1	Award one mark for using the img:hover tag img:hover (1)		
	B2	Award one mark for setting the opacity to 50%. opacity: .5; OR opacity: 0.5; (1)		

Question number		Answer	Additional guidance	Mark
2 (c)		Award one mark for each linked descriptive point up to a maximum of two marks.	No more than 1 mark awarded if no line numbers are included	2
	C1	Lines between 7 and 11 set the properties of the box/rectangle/shape/object (1)		
	C2	Line 15 defines a CSS transform on the Z axis / The original shape is rotated 90 Degrees from its original position. (1)		

Question number		Answer	Additional guidance	Mark
2 (d)		Award one mark for each linked descriptive point up to a maximum of two marks.		2
	D1	Property values of a parent element are inherited by the child element / Child element is inside the parent element / is a sub element of a parent element(1)		
	D2	unless the child over-rides it (1).		

Question number		Answer	Additional guidance	Mark
3 (a)		Award one mark for each linked descriptive point up to a maximum of two marks.	Candidates may provide actual values in their answers – award if meaning is clear.	2
	A1	The input weight and height are checked against the first condition (1).		
	A2	The result of this check is true, (so the other two conditions would not be checked) (1)		

Question number		Answer	Additional guidance	Mark
3 (b)		<pre>function enlargeImage(){ // add your code here to enlarge the picture when the user clicks on it var pic=document.getElementById("picture") pic.style.width="600px" }</pre>		4
		Award up to four marks for the enlargement of image using enlargeImage() function.		
	B1	Picture enlarged is the picture clicked (1)		
	B2	Picture is not skewed (1)		
	B3	User is not taken away from original page (1)		
B4	All correct (1)			

Question number	Answer	Additional guidance	Mark
3 (c)	<p>Button code:</p> <pre data-bbox="775 309 1464 354" style="border: 1px solid #ccc; padding: 5px; display: inline-block;"><button onclick="move('backward')">Back</button></pre> <p>Javascript code:</p> <pre data-bbox="474 437 1733 1034" style="background-color: #f0f0f0; padding: 10px;"> 39 function move(direction) { 40 //if the current slide is the last slide and user clicked next slideIndex set for firstSlide 41 if (slideIndex===lastSlide && direction==="forward"){ 42 slideIndex=firstSlide 43 /*otherwise if the current slide is the first slide and user clicked back slideIndex set for lastSlide. Add your code to do this*/ 44 } else if(slideIndex===firstSlide && direction==="backward"){ 45 slideIndex=lastSlide 46 /*otherwise if the next button was clicked increment the slideIndex to move forward. Add your code to do this*/ 47 }else if (direction==="forward") { 48 slideIndex++ 49 }else{ 50 //decrement slideIndex to move backward. Add your code to do this 51 slideIndex-- 52 } 53 //show the correct slide 54 showSlide(slideIndex) 55 }//end of move function </pre> <p>Award up to five marks for the correct completion of the function move(direction) and adding back button.</p>	any sensible value for parameter passed with the onclick event of back button	5
C1	Back button added that calls the move function (1)		
C2	Back button call to move function passes a 'backward' direction (1)		
C3	Return to the fourth image when back button is clicked after first image (1)		
C4	Increment slideIndex and move forward when appropriate (1)		
C5	Code uses existing variables only (1)		

Question number		Answer	Additional guidance	Mark
3 (d)	<p>D1</p> <p>D2</p>	<p>Award one mark for each point up to a maximum of two marks.</p> <ul style="list-style-type: none"> • The DOM turns a web page into an object / gives the object an API (1). • The DOM allows JavaScript to change the appearance of a web page / access the methods of the objects(1) • The DOM contains objects that are self-contained 'bundles' of data. (1) • The DOM is language neutral (1) 	<p>Do not accept answers relating to changing the content of a website</p>	<p>2</p>

Question number		Answer	Additional guidance	Mark
4		Award one mark for each of the following points up to a maximum of fourteen marks.		20
Evidence found in:				
HTML – Head	A1	<meta charset="UTF-8">		
HTML – Head	A2	<meta name="description" is used with suitable description.		
HTML - Body	A3	At least one HTML5 semantic element used to define part of the page. <header> <nav> <section> <article> <footer>		
HTML / CSS	A4	One from: Banner sized at 1000 x 100 pixels Navigation bar sized at 1000 x 50 pixels Text area sized at 500 x 500 pixels Image area sized at 500 x 500 pixels Footer sized at 1000 x 50 pixels		
HTML – Body	A5	A hyperlink has been added to the navigation bar which links to marsRover.html		
HTML – Body / CSS	A6	At least three images added are sized at 150 x 150 pixels		
HTML - Body	A7	At least three images in a row		
HTML – Body / CSS	A8	At least one colour set correctly Background blue - (#0000FF) Font/border Light Grey (#CCCCCC) Footer text Yellow (#FFFF00)		
HTML – Body / CSS	A9	Emphasis set on the heading		
HTML – Body / CSS	A10	Semantic tag used for Emphasis on the heading .e.g. ,		
HTML – Body / CSS	A11	Functioning email link from 'Copyright tech' to info@spacetech.co.uk		
HTML – Body / CSS	A12	Padding is taken into account with element sizing. For example:		

		<ul style="list-style-type: none"> • box-sizing: border-box and widths set as specified • padding subtracted from specified widths 		
HTML – Body / CSS	A13	All text centre-aligned		
CSS	A14	Link is present to external style sheet.		

Award up to a maximum of **six** marks for the adherence to the component layout and the application of CSS using the levels based mark scheme below.

Topic Area	0	1	2	3	Mark
Adherence to component layout design	No awardable content	There is little adherence to the component layout design, leading to a solution that is not fit for purpose or is not suitable for the intended audience.	An attempt to adhere to the component layout design leads to a solution that is, in parts, fit for purpose and is, in parts, suitable for the intended audience.	The webpage fully adheres to the component layout design and style requirements. The resulting solution is fit for purpose and is suitable for the intended audience.	3
Application of CSS to control presentation	No awardable content	There is little attempt to make use of the facilities of CSS to control appearance and style. Most components rely on default configuration.	An attempt has been made to use CSS to control the appearance and style of some components. This has been successful in some cases.	Consistent and accurate application of CSS is used throughout to control the appearance and style of all components.	3

Question number		Answer	Additional guidance	Mark
5		Award one mark for each of the following points up to a maximum of 11 marks.		
		filter.html		
	A1	Suitable placeholder added on planetInfo text area		
	A2	Array declared		
	A3	Information stored in arrays elements		
	A4	Information stored in correct elements of array (matches planets)		
	A5	Correct output is shown in box		
		login.html		
	A6	Only authorised username and password accepted		
	A7	Suitable message shown for valid login		
	A8	Redirection to success.html with valid login		
	A9	Suitable message shown for invalid login including number of attempts remaining		
A10	Number of attempts incremented with invalid login			
A11	Form disabled after third invalid login attempt			

Code Examples

Filter.html

Placeholder

```
<p><textarea id="planetInfo" rows="5" cols="41" placeholder="The facts about the planet will show here when you have selected a planet"></textarea></p>
```

Array

```
var planetArray=[];

planetArray[0]="Mars is the fourth planet from the Sun and is the second smallest planet in the solar system. Named after the Roman god of war, Mars is also often described as the Red Planet due to its reddish appearance."
planetArray[1]="The planet Jupiter is the fifth planet out from the Sun, and is two and a half times more massive than all the other planets in the solar system combined. It is made primarily of gases and is therefore known as a gas giant."
planetArray[2]="Venus is the second planet from the Sun and is the second brightest object in the night sky after the Moon. Named after the Roman goddess of love and beauty and is sometimes referred to as the Earth's sister planet due the their similar size."
planetArray[3]="Mercury is the closest planet to the Sun and due to its proximity it is not easily seen except during twilight. For every two orbits of the Sun, Mercury completes three rotations about its axis."
planetArray[4]="Neptune is the eighth planet from the Sun making it the most distant in the solar system. This gas giant planet may have formed much closer to the Sun in early solar system history before migrating to its present position."
```

Login.html

```
const validUsername="user"
const validPassword="1234"
var attempts=1

function checkLogin(){
    var username=document.getElementById("inputUsername").value
    var password=document.getElementById("inputPassword").value

    if (username==validUsername && password==validPassword){
        window.location.assign("success.html")
    }else if (attempts < 3){
        alert("There is a problem with either the username or password. This is attempt "+
            attempts)
        attempts ++
    }else{
        alert("You have used incorrect login details " + attempts + " times. Please contact
            your administrator")
        document.getElementById("submit").disabled = true;
    }
}
```

Award up to a maximum of nine marks for the functionality, user interface design, use of notation, using the levels based mark scheme below.					
Topic area	0	1	2	3	Mark
<p>Appropriate functionality:</p> <ul style="list-style-type: none"> • components and code have been decomposed into appropriate parts • dynamic behaviours are implemented in JavaScript. 		<p>The component parts of the program are incorrect or incomplete, providing a program of limited functionality that meets some of the given requirements.</p> <p>Mostly inappropriate logic used.</p>	<p>The component parts of the program are complete, providing a functional program that meets some of the given requirements.</p> <p>Some parts of the logic are clear and mostly appropriate to the problem.</p>	<p>The component parts of the program are complete, providing a functional program that fully meets the given requirements.</p> <p>The logic is clear and appropriate to the problem.</p>	3
<p>Appropriate interface design:</p> <ul style="list-style-type: none"> • error messages and other status reports • Interactivity between JavaScript and HTML 		<p>The design of the user interface lacks consideration for fitness for purpose and the intended audience.</p>	<p>The design of the user interface is in parts fit for purpose and addresses some of the needs of the intended audience.</p>	<p>The design of the user interface is fully fit for purpose and suitable for the intended audience.</p>	3

Topic area	0	1	2	3	Mark
<p>Appropriate use of notation:</p> <ul style="list-style-type: none"> • Presentation of JavaScript ensures clear readability • comments provide clarity. 		<p>Uses programming constructs and techniques to produce some required outcomes in the code.</p> <p>Uses data types that are rarely appropriate to the problem.</p> <p>Limited use of accurate syntax.</p> <p>Limited appropriate use and manipulation of data structures.</p> <p>Some use of meaningful variable names with limited or unhelpful commenting.</p> <p>Parts of the code are clear and readable but much of it makes limited use of appropriate spacing and indentation.</p>	<p>Uses programming constructs and techniques to produce most of required outcomes in the code.</p> <p>Uses data types, some of which are appropriate to the problem.</p> <p>Uses mostly accurate syntax.</p> <p>Accesses and manipulates data structures to produce mostly correct results and/or outcomes.</p> <p>Uses mostly meaningful variable names, with some use of appropriate commenting.</p> <p>Code is mostly clear and readable, making some use of appropriate spacing and indentation.</p>	<p>Accurate programming constructs and techniques are used.</p> <p>Appropriate data types are selected.</p> <p>Accurate syntax is used.</p> <p>Data structures are accessed and manipulated efficiently.</p> <p>Meaningful variable names and comments are used throughout.</p> <p>Code is clear and readable, making effective use of appropriate spacing and indentation.</p>	3

Question number	Indicative content	Mark
6	<p>Should be identifying factors they think are important</p> <ul style="list-style-type: none"> • A blind person using a screen reader does not necessarily need or want everything on a web page to be read out. They will want to skip through different sections of the page. • Semantic HTML allows meaningful labelling of elements rather than just the presentation of them. • Semantic HTML gives context to screen readers • WAI-ARIA is not a version of HTML it is used where semantic HTML cannot manage accessibility as well as it should <p>Consideration and significance</p> <p>Should assess how well the page uses semantic HTML and WAI-ARIA</p> <ul style="list-style-type: none"> • ARIA only used where built in semantics and behaviour are not enough • Semantic HTML used to describe elements throughout eg header, footer, headings, paragraphs. • Title used so that the user knows the purpose of the page • Heading levels (h1,h2) used which means a user can listen to all the section headings and decide which part of the page they are interested in. • <nav> used to define the navigation menu to make is easily recognisable and so the user would not think it is a list • <main> used so that it is clear what is the main content of the page so that the user can easily jump to it • Aria-hidden also used so that the user does not hear unnecessary instructions • <sections> used to divide the page into three distinct sections. • <fieldset> and <legend> used to tell screen readers that the radio buttons relate to each other and so the user gets told this will be used for their choice of title before being told what the first radio button is • Labels and input types used sensibly for name, email and password. Only the word password would not be read out by screenreader. This is for security purposes. However, user may not know a password is required so ARIA could possibly have been used to define a role and use a label so they could hear it • Asterisks would not be reader by screen reader as use aria-hidden • Aria-required used to make sure user knows which fields are required • Date input types used. Date format would be read out by screen reader but this is not seen on the screen as visually-hidden class used to hide it • Button uses aria-describedby so user would hear what the button will do 	9

Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-3	<ul style="list-style-type: none"> • Applies understanding with limited coherence, showing limited understanding of the given issue. • Assessment of solution is superficial or unbalanced, and judgements lack support from evidence.
Level 2	4-6	<ul style="list-style-type: none"> • Applies understanding to make some coherent connections, showing some understanding of the given issue. • Assessment of solution is partially developed, but this may be unbalanced, using evidence to support some judgements.
Level 3	7-9	<ul style="list-style-type: none"> • Applies understanding coherently, showing a thorough understanding of the given issue. • Assessment of solution is balanced and developed, using evidence to support judgements throughout.
		Total for question 9

