Question 1

a

Each character fits in precisely one byte:

ISO-8859-1: true , UTF-8: false

The encoding is backwards compatible with ASCII:

ISO-8859-1: false , UTF-8: true

The encoding supports Welsh characters:

ISO-8859-1: false , UTF-8: true

b

<!— some text —>

Correct HTML but incorrect CSS

c

```
<p>fruit:</p>
<ol>
    <li>apples</li>
    <ul>
        <li>red</li>
        <li>green</li>
    </ul>

    <li>pears</li>
    <li>bananas</li>
</ol>
```

d

What is alt in img?

The alt attribute specifies the text to be displayed if the image is not displayed

Is the img element an empty element?

Yes

e

<a> with absolute address

Go to Google

<a> with relative address

Homepage

Why is external stylesheet better?
No need to rewrite the same styles for the common elements such as navigation bar. Only one file needs to change and all the files that use this external stylesheet get updated at once

The margin is an area inside of the border
False

The margin is an area outside of the border
True

The padding is an area inside of the border
True

The padding is an area outside of the border
False

a:hover {color: red;}
Color of the link changes when the mouse is over the link

a:action {color: red;}
Color of the link changes when the link is being clicked

<u>Question 2</u>

a

i. red
ii. green
iii. green
iv. blue
v. blue
vi. blue

b

i. Absolute
ii. Relative

c. POST

d. &euro: €. &alpha: α

e

i. True
ii. True
iii. False
iv. True
v. False
vi. False

f

HTML5 semantic elements
<article>, <header>, <nav>

h

i. False
ii. True

Question 3

a

Server-side programming
Processing is done on the server. Appropriate when non-trivial processing has to be carried out on the server. Example languages: Django, Flask, php. Example uses: Process user input, Compiles pages

Client-side programming
Processing is done locally on the client. Good for user interactivity, dynamic applications. Examples: Javascript, Flash, Java Applets. Example uses: Send requests to the server, and retrieve data from it. Interact with temporary storage, and local storage (Cookies, localStorage)

b

DOM
The Document Object Model (DOM) is a programming API for HTML and XML documents. It defines the logical structure of documents and the way a document is accessed and manipulated. With the HTML DOM, JavaScript can access and change all the elements of an HTML document. JavaScript can change all the HTML elements in the page. JavaScript can change all the HTML attributes in the page. JavaScript can change

all the CSS styles in the page. JavaScript can add new HTML elements and attributes.
danElement = document.getElementById(“theId");
anElement.style.left = 20;

c

Event-based programming

An event-driven program is one that largely responds to user events or other similar input. The idea in event-driven programming is that the program is designed to react. It reacts to specific kinds of input from users, whether it's a click on a command button, a choice from a drop-down list, an entry into a text box, or other kinds of user events.Event-driven programming with JavaScript is a useful way to create interactive websites. Typically, after the webpage has loaded the JavaScript program continues to run waiting for an event. If you connect this event to a JavaScript function then the function will run when the event occurs.

d

Lifetime of Javascript variables

When declared in a function, the variable can only be accessed within that function.
When you exit the function, the variable is destroyed = local variable
If variable declared outside a function, all the functions on the page can access it = global
The lifetime of these variables starts when they are declared, and ends when the page is closed.

e

<noscript> Browsers that don’t support or disable Javascript will display the text inside this tag

Question 4

a

Advantage of circuit switched networks

Guaranteed capacity (performance) — once a circuit is established, no other network activity will decrease the capacity of the circuit. Resources allocated to a call cannot be used by any other call

Disadvantage of circuit switched networks

Cost — circuit costs are fixed, independent of traffic

Advantage of packet switched networks

Packets from different hosts share network resources, so fewer interconnections are required. Resources are used as needed, not reserved in advance.

Disadvantage of packet switched networks

As activity increases, a given pair of communicating computers receives a smaller share of network capacity.

b

Layers of 7-layer OSI, responsibilities and examples

Application Layer

Network applications (resource sharing, remote file access)
Examples: telnet, ftp, http, pop3, smtp

Presentation Layer

Formatting of data
Examples: Conversion, compression and encryption/decryption

Session Layer

Establishment and maintenance of sessions
Examples: Checkpoint/recovery of data exchange

Transport Layer

Reliable or unreliable end-to-end delivery
Examples: Segmentation, acknowledgement

Network Layer

Packet delivery, routing

Data Link Layer

Framing of units of information and error checking

Physical Layer

Transmission of bits on the physical hardware

c

TCP

It provides reliable transport, flow control and congestion control. It's used by services such as HTTP, SMTP, FTP and Telnet. It's connection oriented and guarantees delivery. It also monitors segments to ensure reaching destination.

IP

The Internet Protocol (IP) is the method or protocol by which data is sent from one computer to another on the Internet. Each computer (known as a host) on the Internet has at least one IP address that uniquely identifies it from all other computers on the Internet. IP is a connectionless protocol, which means that there is no continuing connection between the end points that are communicating. Each packet that travels through the Internet is treated as an independent unit of data without any relation to any other unit of data.

d

URL

A URL (Uniform Resource Locator) is a unique identifier used to locate a resource on the internet. It is also referred to as a web address. URLs consist of multiple parts -- including a protocol and domain name -- that tell a web browser how and where to retrieve a resource. The URL contains the name of the protocol needed to access a resource, as well as a resource name. The first part of a URL identifies what protocol to use as the primary access medium. The second part identifies the IP address or domain name -- and possibly subdomain -- where the resource is located.

e

DNS

The domain name system (DNS) is the way that internet domain names are located and translated into internet protocol (IP) addresses. The domain name system maps the name people use to locate a website to the IP address that a computer uses to locate a website. For example, if someone types TechTarget.com into a web browser, a server behind the scenes will map that name to the IP address 206.19.49.149.