

6(a)	One mark for each correct label • Protocol • Domain name • Web page name // file name												
6(b)	Any three from: • It examines each request/incoming transmission • It can slow down the rate at which/limits the number of requests sent to the server • It can use caching ... • ... to respond to the request (rather than forwarding it to the server) • It can stop any requests from a certain IP												
6(c)	One mark for each correct missing term or definition. <table border="1"> <thead> <tr> <th>Term</th><th>Description</th></tr> </thead> <tbody> <tr> <td>hypertext markup language (HTML)</td><td>It is the language that is often used to write/author web pages.</td></tr> <tr> <td>domain name server (DNS)</td><td>It is a system that stores URLs/domain names and their matching/corresponding IP addresses // It is a system that provides the matching IP address for a webpage to the web browser.</td></tr> <tr> <td>IP address</td><td>It is a numerical address used to locate the web server.</td></tr> <tr> <td>SSL/TLS/HTTPS</td><td>It is a secure protocol that can be used to transmit data sent to and from a web server.</td></tr> <tr> <td>web browser</td><td>It is a piece of software that is used to display web pages.</td></tr> </tbody> </table>	Term	Description	hypertext markup language (HTML)	It is the language that is often used to write/author web pages.	domain name server (DNS)	It is a system that stores URLs/domain names and their matching/corresponding IP addresses // It is a system that provides the matching IP address for a webpage to the web browser.	IP address	It is a numerical address used to locate the web server.	SSL/TLS/HTTPS	It is a secure protocol that can be used to transmit data sent to and from a web server.	web browser	It is a piece of software that is used to display web pages.
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6(d)	One mark for each correct missing term in the correct place. Cookies are stored and managed by the web browser. Session cookies are temporary files that are created when a user visits a web page. Persistent cookies are permanent files that are created when a user visits a web page.												

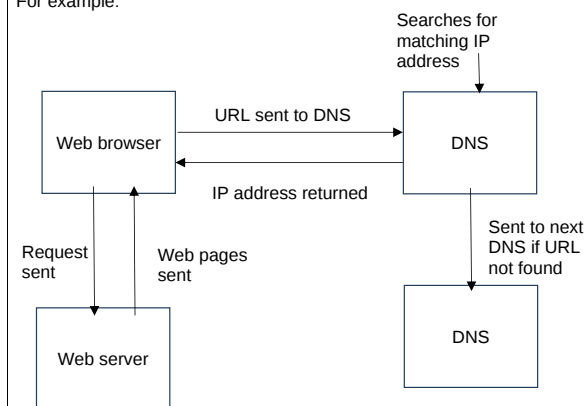
7(a)	A text-based address for a website/web page
7(b)	Any two from: • Protocol • Domain name • File name
7(c)	Web browser

7(d) **One** mark for each correct part of the diagram.

The diagram shows:

- **URL** sent from **web browser** to the **DNS**
- DNS finding **matching IP address**
- If it cannot find the URL, it is sent to the next DNS (until found)
- **IP address** returned to **web browser**
- **Request** sent from **web browser** to **web server** (for web page)
- Web page/HTML files sent from **web server** to **web browser**
- Web browser **rendering HTML**

For example:



7(e) **One** mark for each correct term in the correct order:

- Web browser
- Web server
- Web server
- Web browser
- Encrypted

4	One mark for each correct term or description in the correct place. Term • World wide web // WWW • IP (address) • Domain name server // DNS • Proxy server Description • (Web browser) Software/application that allows users to view/access web pages by rendering HTML • (Hacking) Gaining unauthorised access to a computer/system
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6(a)	One mark for each correct term in the correct order: - web browser - session - temporary - web browser // session - persistent - permanent - expire
6(b)	Any three from: For example: - User preferences // by example - Login details - Payment details - User's personal details e.g. address - Contents of a shopping cart - Targeted advertising

11(a)	Any two from: - The internet is the infrastructure - The world wide web is a collection of web pages
11(b)	Protocol Domain name File name // web page name
11(c)	Any three from: Example: - Displays a web page - Storing bookmarks/favourites - Recording user history - Allowing use of multiple tabs - Storing cookies - Providing navigation tools - Can set a home page

4	Any five marks for each part of diagram: URL from computer/browser to DNS - DNS storing table/database of URL and IPs // DNS finding IP for URL - DNS sending IP to computer / browser - DNS sending to higher DNS if not found - Web browser/computer sending request to IP of web server Web server processing request - Web page data sent from server to computer / web browser <pre> graph LR SC[Student's computer] -- "1. URL" --> DNS[DNS] subgraph DNS_Table [DNS] direction TB U1[URLsco.uk] --- IP1[IP 250.256..] U2[.....co.uk] --- IP2[058.51..] end DNS -- "3. IP" --> SC SC -- "4. request to IP" --> WS[Web server] WS -- "6. HTML web page" --> SC WS -- "5. Process request" --> WS </pre>
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8(a)	C
8(b)	Four marks from: Any FOUR from: - It is denary based ... with numbers between 0 and 255 - It is 32 bits 4 sets/groups of numbers ... separated by dots Any TWO from: - It is a unique address - It can be static or dynamic - It can be public or private - It contains the network prefix ... and the host number