



4.9.4.2 Standard Application Layer Protocols

1) Describe the role of HTTP when a user visits a website.

[2 marks]

- HTTP is used by a web browser to request web pages and resources from a web server.
 - The server returns an HTTP response, usually containing the requested HTML or other resources.
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2) Explain how HTTPS differs from HTTP.

[2 marks]

- HTTPS performs the same basic role as HTTP but adds security.
 - It encrypts data sent between the browser and web server, helps protect confidentiality and supports authentication of the server.
 - HTTPS uses port 443 while HTTP uses port 80/8080
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3) Explain the role of an email server in sending and retrieving emails.

[2 marks]

- An email server stores users' messages and handles communication with other email servers.
 - It uses sending protocols such as SMTP to transfer outgoing mail
 - and retrieval protocols such as POP3/IMAP to allow users to retrieve/access incoming mail.
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4) A company needs staff to upload files to a server, manage the server remotely and access a secure website. Identify a suitable protocol for each task and justify each choice.

[6 marks]

- FTP;
 - would be suitable for uploading files to a server because it is designed for file transfer.
 - SSH;
 - would be suitable for remote management because it allows secure remote login and management of a computer/server.
 - HTTPS;
 - would be suitable for accessing a secure website because it encrypts web traffic between the browser and the web server.
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