# Worksheet 4 TCP/IP

**Task 1**

A file is being transmitted across an Ethernet network using File Transfer Protocol (FTP)   
and TCP/IP.

Label the diagram to explain what is happening at each stage of the communication process and add arrows to show the direction of travel.

|  |  |  |
| --- | --- | --- |
| **Application Layer** |  | **Application Layer** |
|  |  |  |
| **Transport Layer** |  | **Transport Layer** |
|  |  |  |
| **Internet Layer** |  | **Internet Layer** |
|  |  |  |
| **Link Layer** |  | **Link Layer** |
|  |  |  |

Explain why TCP and IP are able to work with different application protocols and different network media, (for example HTTP web pages transferred via a fibre optic connection.)

**Task 2**

Order the following steps showing how a web page is downloaded from a webserver and rendered on the client computer:

|  |  |
| --- | --- |
| **Description** | **Order** |
| Client requests other resources from webserver as specified by HTML file |  |
| Sever transmits HTML text file outlining the structure of the web page |  |
| Additional resources added to webpage structure to complete the download of the web page |  |
| Client requests web page from server |  |
| Server transmit additional resource files |  |
| Web page structure rendered by client within web browser |  |

**Task 3**

Email can be accessed on a server using two different protocols, POP3 and IMAP.

Discuss the differences between these.