

3.3 Networks

Networks / TCP/IP / Domain Name System (DNS) / LAN & WAN / Packet & Circuit Switching / Network Security & Threats / Network Hardware / Client Server & Peer to Peer

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Total Marks

/18

1 Give the names of two protocols that may be used in a LAN.

(2 marks)

2 Anika's computer runs a multi-tasking operating system. She has access to a printer and a broadband internet connection through a wireless connection. The operating system uses scheduling algorithms such as first come first served and round-robin.

Anika uses an encrypted messaging program to communicate with her friends. The computer uses the TCP/IP stack.

Explain what happens at the **link layer** (sometimes referred to as the "network interface layer", "network access layer" or simply the "network layer") of the TCP/IP stack when using this program.

(2 marks)

3 Anika's computer runs a multi-tasking operating system. She has access to a printer and a broadband internet connection through a wireless connection. The operating system uses scheduling algorithms such as first come first served and round-robin.

Anika uses an encrypted messaging program to communicate with her friends. The computer uses the TCP/IP stack.

Explain what happens at the **application layer** of the TCP/IP stack when using this program

(5 marks)

- 4 A hotel uses a computer system to keep track of room bookings. The hotel staff are able to query a database to discover which rooms are booked or which rooms are free.

The hotel is concerned about the security of its computer network.

Discuss the threats which potentially exist to the hotel's computer network **and** how these threats could be eliminated or reduced.

(9 marks)