

Questions

1) Define the term protocol. [1]

2) Give **two** reasons why standards required within a network? [2]

3) Devices have a MAC address for each NIC.

a) Expand the acronym MAC. [1]

b) Expand the acronym NIC. [1]

c) Using an example, explain why a device may have more than one MAC address. [2]

Here is an example of a MAC address: C5-B3-5D-33-3F-AE.

d) i) State the numerical representation used in the MAC address. [1]

ii) State the purpose of the first 6 characters. [1]

ii) State the purpose of the last 6 characters. [1]

4) a) Draw lines to connect each protocol to its correct function. [3]

TCP	rules for sending email
IP	rules for addressing data packets
SMTP	rules for transferring files
FTP	rules for splitting data into packets

b) Which of the following protocols deals with error checking? [1]

- A IP
- B TCP

- C IMAP
- D HTTPS

5) a) Explain why a sequence number is required in the header information of a TCP/IP packet. [2]

b) Identify **two** other items of data that will be included in the header information of a TCP/IP packet. [1]

Mrs Andrews uses the Internet to log on to the school register and reporting system using a web browser.

6) a) Explain why the HTTPS protocol is used instead of the HTTP protocol. [2]

The school website is available to the public without the need for usernames or passwords.

b) Give **one** reason why the school website uses the HTTPS protocol instead of HTTP. [1]

The school runs its own email server using the SMTP protocol to send emails. Mrs Andrews has client email software on her laptop that uses the IMAP protocol.

7 a) i) Expand the acronym SMTP. [2]

ii) Expand the acronym IMAP. [2]

b) Describe **one** difference between SMTP and IMAP protocols. [2]

c) Give **one** reason why she uses IMAP instead of POP. [1]

8) Give **two** reasons why layers are used in networking. [2]