MODULE E NETWORKS · E4

Network hardware: NIC and router

Original practice questions · 20 marks · ~25 minutes · Cambridge 0478 syllabus 3.4.1, 3.4.4

Name _____ Date _____

Instructions. Answer all questions in the spaces provided. The marks for each part are shown in brackets [ ]. The total for this worksheet is **20 marks**.

1

Total: 6 marks

(a) State the name of the component that a computer needs to access a network. **[1]**

(b) State the type of address that is given to this component at the point of manufacture. **[1]**

(c) Tick (✓) **one** box in each row to show whether each statement is true or false. **[4]**

Statement	True	False
A router can connect a local network to the internet		
A router gives each network interface card its MAC address when the computer joins the network		
A router can assign IP addresses to devices on a network		
A computer without a network interface card can access a network if it is plugged into a router		

2

Total: 3 marks

(a) Describe the role of a router in a network. **[3]**

3 **Total: 4 marks**

A veterinary practice has a local network of eight computers and a printer. The network is connected to the internet through a router. A web page is sent from a server on the internet to one of the practice's computers.

(a) Explain how the router makes sure the web page is sent to the correct computer. **[2]**

(b) When a new laptop joins the practice's network, the router gives it an IP address. Explain why the router assigns an IP address to the laptop. **[2]**

4 **Total: 2 marks**

A technician says: "The practice's new printer will be able to access the network, because the practice already has a router."

(a) Explain why the technician is **not** correct. **[2]**

5 **Total: 5 marks**

A small engineering company adds a new computer to its local network. A member of staff then uses the computer to request a file from a server on the internet.

(a) Explain the role of the network interface card **and** the role of the router as the computer joins the network and the request is sent to the server. **[5]**

Total for this worksheet: 20 marks