MODULE E NETWORKS · E4

Network hardware: NIC, switch, router, wireless access point and cables

Original practice questions · 20 marks · ~25 minutes · OCR J277 spec 1.3.1

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: 4 marks

(a) Tick (✓) **one** box in each row to show which piece of hardware performs each task. **[4]**

Task	NIC	Switch	Router	Wireless access point
Lets wireless devices connect to a wired network using radio waves				
Connects a local area network to the internet				
Hardware inside a device that allows it to connect to a network				
Connects devices within a LAN and sends data only to the device it is meant for				

2

Total: 3 marks

Transmission media carry data between the devices on a network.

(a) Give **two** examples of transmission media that can be used to carry data in a **wired** network. **[2]**

1

2

(b) State the transmission medium used by a **wireless** network. **[1]**

3 **Total: 4 marks**

A small printing company has six desktop computers. Each one has a network interface card (NIC) and is connected by cable to a switch.

(a) Describe how the switch makes sure that data sent from one computer arrives only at the computer it is meant for. **[2]**

(b) The company's manager says: “Now we have a switch, we do not need a router.” Explain why the company still needs a router if staff want to use the internet. **[2]**

4 **Total: 3 marks**

The printing company buys two laptops. Each laptop has a wireless NIC but no Ethernet port.

(a) Identify the piece of hardware the company should add so that the laptops can join the wired network. **[1]**

(b) Explain why each laptop still needs a NIC, even though it connects without a cable. **[2]**

5 **Total: 6 marks**

A firm of architects has four stand-alone desktop computers that are not connected to each other. Visitors bring tablets that can only connect wirelessly. The firm wants all of these devices to share files on a local area network (LAN) and to use the internet.

(a) Explain what hardware the firm needs to connect its devices into a LAN that can reach the internet. For each piece of hardware, explain the task it performs. **[6]**

Total for this worksheet: 20 marks