# Homework 2 Network topology Answers

# What physical network topology is shown in the diagram below? [1]

**Switch / Hub**

# Star (1)

# “A network with a physical star topology can operate logically as a bus network”. Explain this statement. [3]

A network may be designed / laid out (1) so that its wiring / cabling resembles a

star network topology (1). The network itself however uses a bus protocol (1) so that every

computer / device on the network transmits its traffic to all others in turn (1) as in a bus network.

# Describe two advantages of using a star over a bus network topology. [4]

Easy to isolate problems (1), as each device has its own cable (1).

Good performance (1), due to each computer having its own dedicated connection (1)

More secure (1), transmission are only sent to the computers they are intended for (1)

Devices can easily be added (1), as the network does not have to be shut down (1)

Different devices / different speeds (1), as each computer has its own dedicated link (1)

# “A bus network topology is often considered relatively insecure”. Explain this statement. [2]

As all computers on a bus network transmit their traffic to all others computers (1) along the

backbone every computer gets to see all network traffic (1) and not simply the traffic which is intended for it (1).

 [Total 10 Marks]