|  |  |
| --- | --- |
| 1a | To allow computers to connect to a network. |
| 1b | 1 mark per bullet   * Because the distance covered by the router might not be enough… * …. a WAP will extend the coverage/distance in which the internet can be accessed. |
| 1c | 1 mark per bullet   * To connect different networks together. * It works by receiving data and inspecting it’s IP address. * It is then forwarded to the correct network. |
| 1d | 1 mark for difference 1 mark for similarity  Difference   * Hub is unintelligent/Switch is intelligent * Hub does not filter data/Switch stores MAC addresses to filter data * Hub sends data to all devices/Switch sends data to the intended recipient.   Similarity:   * Both used to create (internal) networks |
| 1e | * Fibre optic cables transmit data through light (1) so do not suffer from electrical interference. (1) * Data can be transmitted over very large distances (1) without any loss of signal quality. (1) * They are able to transmit data (1) at a higher bandwidth. (1) |

**Exam-style questions**

1. To convert a standalone computer to a networked computer, network hardware is required.
2. State the purpose of a Network Interface Controller (NIC)

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**[1]**

1. Explain why medium to large organisations might use a Wireless Access Point.

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**[2]**

1. Describe the purpose of a router.

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**[3]**

1. Identify **one** difference and one similarity between a hub and a switch.

Difference: ……………………………………………………………………………………………………..

…………………………………………………………………………………………………………………..

Similarity: ………………………………………………………………………………………………………

…………………………………………………………………………………………………………………..

**[2]**

1. Many fast broadband connections use fibre optic cable instead of copper.

Explain **one** reason why fibre optic cable is the preferred choice.

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**[2]**