|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade | TG. | Breadth | Depth | Presentation | Understanding |
| A/A\* |  | ALL | **LINK / FORMULATE**Create, Generate, Hypothesis, Reflect, Theorise, Consider | QuadCore | QuadCore |
| B/C |  | MOST | **EXPLAIN / ANALYSE**Apply, Argue, Compare, Contrast, Criticise, Relate, Justify | DualCore | Dual Core |
| D/E |  | SOME | **DESCRIBE / IDENTIFY**Name, Follow Simple Procedure, Combine, List, Outline | SingleCore | Single Core |
| U |  | FEW | Very little depth of understanding shown |  |  |
|  |  | **MY ASSESSMENT GRADE IN THIS TOPIC IS:** |



**11 – Networks (AS / A Level)**

**UNIT 1**

1. Describe what is meant by the term Protocol.

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

………………………………………………………………………………………………………………………………. **[1]**

1. Explain how the TCP/IP stack is a type of protocol, make reference to layering in your answer.

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

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

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

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

………………………………………………………………………………………………………………………………. **[4]**

1. Explain one advantage and one disadvantage of Client-Server over Peer-to-Peer.

**Advantage** …..……………………………………………………………………………………………………………......

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

**Disadvantage** ……………………………………………………………………………………………………………......

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

………………………………………………………………………………………………………………………………. **[4]**

1. A local business has fallen victim to a string of recent cyber-attacks which has resulted in personal and private data being stolen from their internal network. Explain how each of the following techniques could be used to help mitigate against future attacks.

**Firewalls** …………………………………………………………………………………………………………………......

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

………………………………………………………………………………………………………………………………..**[2]**

**Proxies** …………………….………………………………………………………………………………………………......

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

………………………………………………………………………………………………………………………………..**[2]**

**Encryption** ……………..…………………………………………………………………………………………………......

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

………………………………………………………………………………………………………………………………..**[2]**

How To Improve:

**My Response Is:** (Set yourself specific targets / objectives as to how you will achieve your HTI)

Expectations / Learning Outcomes:

* Terms 134-146 from your **A Level Key Terminology** PowerPoint should be included and underlined.
* You must include a diagram which explains the difference between packet and circuit switching.
* You must show a clear understanding of the main differences between client-server and peer to peer.
* You must include a diagram which clearly shows your understanding of protocol layering and show how that applies to the TCP/IP protocol.
* You must include some examples of typical networking hardware and their uses, plus an illustration of how a network for a small business might be connected.

Specification Points / Learning Objectives: **Core text book page ref: 201-218, 229**

|  |  |  |
| --- | --- | --- |
| **AS Level** | **A Level** | **Specification point description** |
| 1.3.2a | 1.3.3a | Characteristics of networks and the importance of protocols and standards |
| 1.3.2b | 1.3.3b | Internet structure: -The TCP/IP Stack -DNS -Protocol layering -LANs and WANs -Packet and circuit switching |
|  | 1.3.3c | Network security and threats, use of firewalls, proxies and encryption |
|  | 1.3.3d | Network hardware |
| 1.3.2c | 1.3.3e | Client-server and Peer to Peer |

**Examination Questions**