



Complete, fold and seal
(see note 2 below)

FORENAME(S): Simon Peter

12 Pages

1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either ignore illegible script or have it typed and the expense of typing charged to the candidate.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
6. No part of this book is to be torn out; it must be handed in complete.
7. If more books than one are used, fasten them together using the tags available from the invigilator(s).
8. **Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.**

List the numbers of the questions you have attempted	Office Use
Q1 a	17
Q2 a	} 205
Q2 b	
Q2 c	
Q3 a	8
b	
Total	45.5

(Gweler yr ochr arall am y fersiwn Cymraeg)

61%



Q1a1 Fault management

- detect faults within a network.
- Isolates that fault to prevent network wide failure.
- Resolves faults to restore network to required functionality.
- most used management to prevent downtime
- Proactive approach is the best method

4

Performance management

- monitors latency, bandwidth and downtime to ensure that network is performing at top efficiency, also monitors for events such as broadcast storms which can create additional traffic on the network and hinder performance.

2 1/2

Accounting management

- Manages the services of a network, including who is using what services, why is that service being used and at what times they are being used. This is used to ensure the correct resource by the correct people at a moment in which they are expected to be used.

4

Security management

- Provides an access list on a network so that devices and resources are being used correctly. ~~on~~ such as finance staff have access to corporate data that is relevant and sales staff have access to Tablets.

3

Configuration management

- Sets up the configuration of network and relevant devices, areas would include configuration file management, inventory management, known contacts management and contact person.

2 1/2

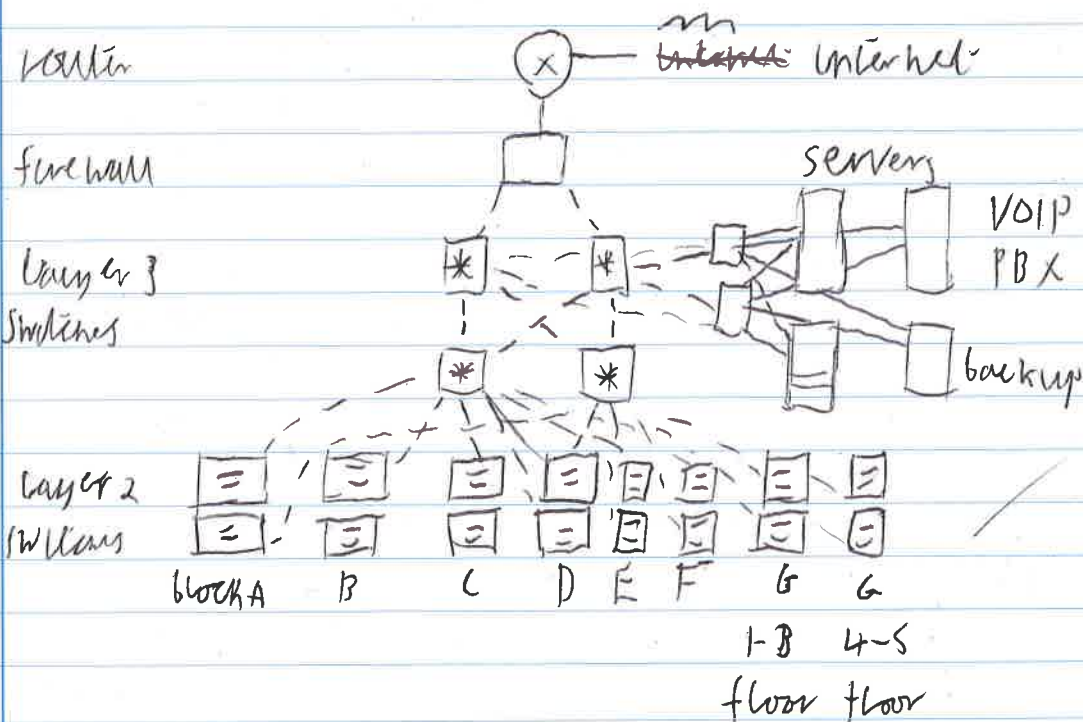
Q1a ii An example is ~~Simple management~~ Simple network management protocol Version 3 features in this include performance monitoring, Scalability, Security, availability and backup.

Q2a no redundancy
different devices used, compatibility
Security
hierarchy design
Cables
backup

Q2b i Network manager acts as a supervisor for technicians by providing training for them, also responsible for installation and monitoring of a network.

Network administrator seen as higher role in networking there function is to plan, install and monitor the network as well as create new policies and sub systems based on corporate requirements.

Q2 Gi Kaitin





Q2c.i - Use of Three layer hierarchy to provide availability and redundancy. Use of the same routers and layer 2/3 switches to ensure compatibility.

for each block 2 layer 2 switches have been used for redundancy. If a switch fails the end devices on half the network would still be up. as well as VoIP and PBX server a backup server has been added on site.

Q2c.ii as requested a VoIP and a PBX server has been added to server room which will now allow phone using Voice over IP protocol and Phone Branch exchange to be used to connect with network

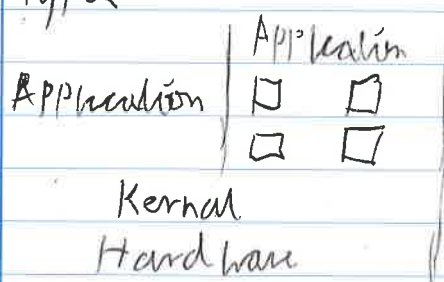
Q2c.iii - Cabling has been connected / faulting
 - No backup on site
 - Use of a single behind lobby switch
 - Rebuilt allowed for the purchase of new equipment including:
 • Cisco 1911 routers
 • Cisco ASA firewall (5500)
 • Cisco L3 3560 switches
 • Cisco L2 2600 switches
 - New cables including copper straight through and crossover up to 10 Gbps Gigabit.

Q3a.i Type 1 Hypervisor

Application	Application
Kernel	
Hardware	

- Also called Baremetal it allows several ~~virtual~~ virtual services to run straight off the hardware. Virtualisation has full access to hardware resources examples Microsoft Azure and Xenix.

Q3ai Type 2



— The most common of the two (this form has virtualisation running on top of an operating system such as windows or macintosh. This form is mainly concerned by the OS as it is seen as the priority. Resources can be allocated through the user interface. Examples include VMware and Virtual box.

Q3aii Virtual machines are emulators that allow user access to resources located on a server. An example would be a company business could purchase a server and run a number of PCs on that allow, instead of having to purchase the individual PCs. It is useful for saving hardware space, maintenance and cost.

Q3aiii A Virtual Switch is a logical switch piece which is a physical switch. While it has no physical ports, a virtual switch can still be used as if a real switch for packet forwarding and creating on ports.

Q3aiv