



**Victorian Certificate of Education
2003**

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

Letter

Figures									
Words									

**VCE VET INFORMATION TECHNOLOGY
(Network Administration)**

Written examination

Friday 31 October 2003

Reading time: 3.00 pm to 3.15 pm (15 minutes)

Writing time: 3.15 pm to 4.45 pm (1 hour 30 minutes)

QUESTION AND ANSWER BOOK

Structure of book

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	20	20	20
B	17	17	46
C	7	7	20
			Total 86

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- No calculator is allowed in this examination.

Materials supplied

- Question and answer book of 21 pages.
- Answer sheet for multiple-choice questions.

Instructions

- Write your **student number** in the space provided above on this page.
- Check that your **name** and **student number** as printed on your answer sheet for multiple-choice questions are correct and sign your name in the space provided to verify this.
- All written responses must be in English.

At the end of the examination

- Place the answer sheet for multiple-choice questions inside the front cover of this book.

Students are NOT permitted to bring mobile phones and/or any other electronic communication devices into the examination room.

SECTION A – Multiple-choice questions**Instructions for Section A**

Answer **all** questions in pencil on the answer sheet provided for multiple-choice questions.

Choose the response that is **correct** or that **best answers** the question.

A correct answer scores 1, an incorrect answer scores 0.

Marks will **not** be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

Question 1

Application software needed to access Internet sites is known as a

- A. database compiler.
- B. word processor.
- C. search engine.
- D. web browser.

Question 2

A company has purchased a new laser printer to be installed on a stand-alone desktop computer.

The system software that must be installed on the computer for the printer to function is the

- A. operating system software.
- B. application software.
- C. driver software.
- D. fonts software.

Question 3

You are a Help Desk operator and have logged a number of jobs.

Job 1 – The despatch clerk is unable to schedule urgent customer deliveries due to a fault with his computer.

Job 2 – The accountant is unable to print end-of-year results that are due in three weeks time.

Job 3 – The receptionist cannot access email. She wants to change the phone message system from delivering hard copy messages to sending electronic messages.

Job 4 – The payroll clerk cannot access a macro to run the wages calculations that are due in five days time.

The four jobs would be best prioritised in the order

- A. job 1, job 3, job 4, job 2
- B. job 3, job 1, job 4, job 2
- C. job 4, job 1, job 2, job 3
- D. job 1, job 4, job 2, job 3

Question 4

Harley, the Help Desk operator, has received a call from the clerk in the Accounts Department. The clerk cannot access the shared accounts database files.

Which is the **most** appropriate response that Harley could give?

- A. Switch your computer off and then on again.
- B. Can you identify yourself and clarify the problem?
- C. Can you ring me back in half an hour if there is still a problem?
- D. I will send a network technician to check the cabling on your PC.

Question 5

Which one of the following people would be **least likely** to use technical documentation?

- A. a programmer
- B. a system designer
- C. a database entry operator
- D. a computer systems engineer

Question 6

You have created a macro for a shared spreadsheet file to be used by the Accounts staff at your place of work. How could you provide efficient and timely user access to the macro?

- A. provide on-line help
- B. create a shortcut on the desktop
- C. add a button to the standard tool bar
- D. run two applications at the same time

Question 7

An organisation requires a computer system that will accommodate ten or more clients running programs from a Client Server at the same time.

The type of operating system that satisfies this requirement is a

- A. multi-user.
- B. multitasking.
- C. multithreading.
- D. multiprocessing.

Question 8

Outlined are four logged Help Desk calls with their problems and solutions.

Help Desk call	Problem	Solution
A.	Desktop computer slow and unreliable	Defrag hard disk drive
B.	Network user cannot logon	Regenerate password
C.	Programs terminate without warning	Replace memory module
D.	User cannot access a shared database	Desktop shortcut redirected

Which problem is hardware related?

- A. Help Desk call A
- B. Help Desk call B
- C. Help Desk call C
- D. Help Desk call D

Question 9

A large organisation uses email to send weekly updates to specific groups within various departments. Current practice involves sending the email to each member of the group individually.

What feature of an email software package could be employed to make this process more efficient?

- A. the global address book
- B. the distribution list
- C. the address book
- D. the contacts list

Question 10

In a SWOT analysis, a **threat** is best defined as

- A. user resistance within the business.
- B. external factors affecting the business.
- C. forces that can adversely affect the business.
- D. business practices that an organisation can improve on.

Question 11

An organisation has developed and implemented Key Performance Indicators (KPIs) to ensure the efficient and effective operation of the organisation's Help Desk.

This process is usually formalised in a

- A. Business Plan document.
- B. Service Level Agreement.
- C. job description document.
- D. Employee Bargaining Agreement.

Question 12

You have been asked to design an implementation plan for the installation of new equipment into an organisation.

Which one of the following would **not** be included in an implementation plan?

- A. an audit of equipment records
- B. an estimate of time taken to carry out each task
- C. the timing of the introduction of the new technologies
- D. the resource requirements and individual responsibilities for tasks

Question 13

At what stage should a software system be evaluated, by both users and technical specialists, to determine how well it has met its original objectives?

- A. during systems design
- B. during implementation
- C. during day-to-day operations
- D. during conversion from an old system to the new system

Question 14

To assist with the upgrade of a network's operating environment, it is important to know the current configuration of the network being upgraded.

Which type of documentation would be used to support this process?

- A. user
- B. system
- C. policy
- D. standards

Question 15

A new default document in a word processing application is an example of

- A. a macro.
- B. a version.
- C. a template.
- D. an application.

Question 16

When importing a spreadsheet file to a database file, the columns in the spreadsheet are used by the database to identify the

- A. fields.
- B. data type.
- C. primary key.
- D. number of records.

Question 17

The **initial** objective in forming documentation for an IT solution is to identify

- A. budgetary issues.
- B. intended users' characteristics, needs and diversity.
- C. quality and consistency within a business environment.
- D. the technical problem being addressed to meet organisational standards.

Question 18

A system flow chart provides

- A. details of processing within a system.
- B. an overview of a program within a system.
- C. a description of data requirements within a system.
- D. details of decision-making and logic loops within a system.

Question 19

The read/write performance of an operating system is best optimised by

- A. checking the hard disk for errors.
- B. monitoring system resources with a performance meter.
- C. automatically opening all regularly used applications on start-up.
- D. regularly running a program to defragment files and remove gaps on the hard disk drive space.

Question 20

You receive a call from Mary, the Human Resources Manager, complaining that she is unable to save a file that she is currently updating on a shared directory. When Mary attempts to save the file the following error message is displayed: 'This file is locked for editing by another user'.

This type of issue is categorised as

- A. a bug in the program.
- B. access rights.
- C. connectivity.
- D. security.

SECTION B – Short-answer questions

Instructions for Section B
Answer **all** questions in the spaces provided.

Question 1

List **two** resources an organisation can use to keep informed about specialised features of technology.

1. _____

2. _____

2 marks

Question 2

Why do organisations have standards for producing documentation?

1 mark

Question 3

How does the purpose of user documentation differ from technical documentation?

2 marks

Question 4

Organisations often develop a policy to encourage a continuous improvement culture. As a result of the policy implementation, a Help Desk operates according to the 'Plan, Do, Measure, Improve' model. As part of this change in culture, feedback is seen as a positive experience. All relevant data is collected for analysis.

a. List **two** appropriate methods used to collect client feedback to monitor Help Desk performance.

1. _____

2. _____

b. How would this information be used?

2 + 2 = 4 marks

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Question 5

Corporate Travel categorises their Help Desk support as belonging in two main areas.

Area 1 – Problems

Area 2 – Services

Each call is logged into a Help Desk database and is prioritised according to the following criteria.

- Level 1 – Urgent – more than five persons affected, response time within fifteen minutes
 - Level 2 – Standard – general software and hardware type problems, response time within one working day
 - Level 3 – Minor – something that can be scheduled to occur at a later date
- a. Julie emails the Help Desk stating that she is unable to print on the network printer in the Administration Department. At what level would you prioritise this call? Justify your answer.

- b. List **two** types of services that a Help Desk could provide for Corporate Travel.

1. _____

2. _____

- c. Corporate Travel's Help Desk must resolve 90% of calls logged within the specified times. How does the use of the Help Desk database enable the organisation to monitor this?

2 + 2 + 1 = 5 marks

Question 6

Flora and Fauna (F & F) is an organisation funded by the Federal Government. It monitors the environment in each state and advises the Minister for the Environment on related issues.

A recent financial report indicated that F & F spent \$2.2 million in the last financial year to support their information and communication systems.

Help Desk support is provided for hardware platforms, operating systems and software applications. Products and versions of software vary within each state office and also between states.

To reduce financial costs on F & F, the Chief Executive Officer has requested that the organisation investigate a standard computer operating environment and all necessary processes to maintain this infrastructure.

- a. What is meant by a standard computer operating environment?

- b. List **two** benefits to the organisation as a result of moving to a standard computer operating environment.

1.

2.

2 + 2 = 4 marks

Question 7

List **two** different functions of an operating system.

1.

2.

2 marks

Question 8

- a. What is the purpose of Virtual Memory in a computer system?

- b. What overall gain does an organisation achieve through the use of Virtual Memory?

1 + 2 = 3 marks

Question 9

Briefly describe the function of a boot-up disk, sometimes referred to as a start-up disk.

2 marks

Question 10

During the installation of an operating system, the Network Administrator is given the option of creating a number of partitions on a hard disk drive.

- a. What happens when a hard disk drive is partitioned?

- b. How could this benefit an organisation?

1 + 1 = 2 marks

Question 11

Your client is upgrading their operating system and has three critical peripheral devices that they need for the operation of their business. Two of the peripheral devices are manufactured overseas. How could you quickly locate information and check that the three peripheral devices are compatible with the new operating system?

1 mark

Question 12

Jet Incorporated deployed twenty-five copies of a software application over a Client Server network to twenty-five clients. The Managing Director of the company asked the Network Administrator if the software was legal. The Network Administrator stated that the software was legal as the company paid for a concurrent license for fifteen users.

Has the company met its legal copyright obligation? Justify your answer.

2 marks

Question 13

A service that the Help Desk at Data Communications provides for its clientele is to minimise and remove security breaches and virus attacks on the company's computer network.

a. Clients also have a responsibility to use the network in line with the organisation's guidelines. Briefly outline **two** policies that may be developed for network users to support the integrity of the system.

1. _____

2. _____

b. The company has asked you to review its virus eradication policy. A virus has been detected. List **three** steps that you would recommend to minimise any adverse effects on a company's computer network.

1. _____

2. _____

3. _____

2 + 3 = 5 marks

Question 14

As manager of Chateau, a real estate office, you have implemented changes to the current computer system and are responsible for organising a training program for the office staff. A day has been set aside for the company to provide staff training. The office staff consist of three clerical and four sales people. They need to be properly trained to use the system efficiently and effectively.

Changes to the system have meant all office staff will have to

- learn the new login and back-up procedures
- save their data to the file server, instead of saving to their individual PC hard disk
- become familiar with the upgraded operating system
- become familiar with the upgraded application software.

a. How could Chateau overcome user resistance to the computer system changes?

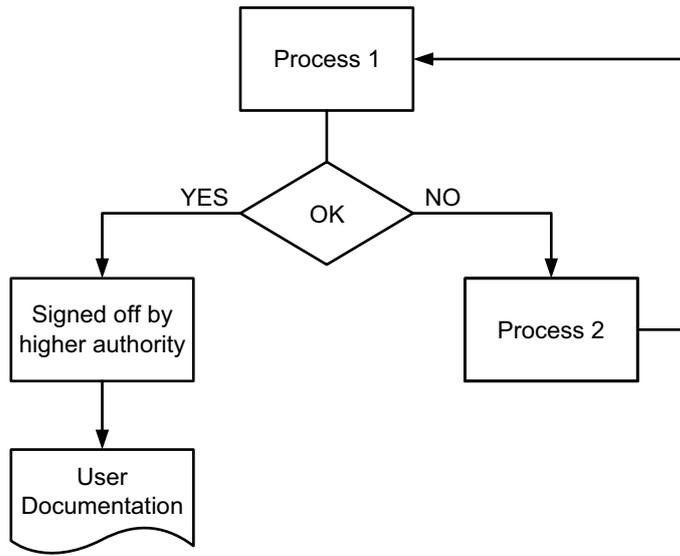
b. What type of training program would be suitable for the office staff at Chateau? Justify your answer.

c. Apart from training, how could Chateau ensure that the implementation of the changes causes minimal disruption to the daily job tasks of the office staff?

1 + 2 + 2 = 5 marks

Question 15

Flow chart of user documentation sign-off



Identify and name Process 1 and Process 2 in the flow chart for ‘User documentation sign-off’.

Process 1 _____

Process 2 _____

2 marks

Question 16

A client has requested that you develop a macro. The macro you have developed will not run due to a syntax error. What is a syntax error?

1 mark

Question 17

Having gained explicit permission from the owner, you can copy data from the World Wide Web to current database and spreadsheet applications. The data being copied must be in a tabular form.

- a. Why must the data be in tabular form?

- b. What language must the application packages be able to interpret?

2 + 1 = 3 marks

Total 46 marks

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SECTION C – Case study

Instructions for Section C

Read the case study below and answer the following questions in the spaces provided.

Superior Leather Pty Ltd opened its Melbourne office for business in 1998. The company is a wholesale outlet for leather goods.

Superior Leather Pty Ltd employs five people at its Melbourne office. They include the Managing Director, Sales Manager, Accounts Clerk, Stores Manager and a Receptionist.

Initially the company supplied leather goods to sixty retail outlets in the Melbourne metropolitan area. In 2003 the company’s share of the local market increased to one hundred and fifty retail outlets.

A major element of the company’s business strategy is to expand nationally. Recently the Managing Director purchased an office in Sydney.

Due to the rapid growth of the company, the Melbourne office recently recruited an Accounts Manager, two Sales Representatives, two Storepersons, an Office Manager and a Network Administrator. The company is in the midst of refurbishing the Sydney office and has also employed for the Sydney office an Assistant General Manager, one Storeperson, one Accounts Clerk, one Sales Representative and a Receptionist. The new organisational changes are to be implemented by the end of the financial year.

Figure 1 represents the existing information technology infrastructure at the company’s Melbourne office. All five personal computers are networked. The physical media used for the network is thick coaxial cable and the PCs are configured in a Peer to Peer relationship. Currently the office is situated on one floor only.

Existing information infrastructure Melbourne office

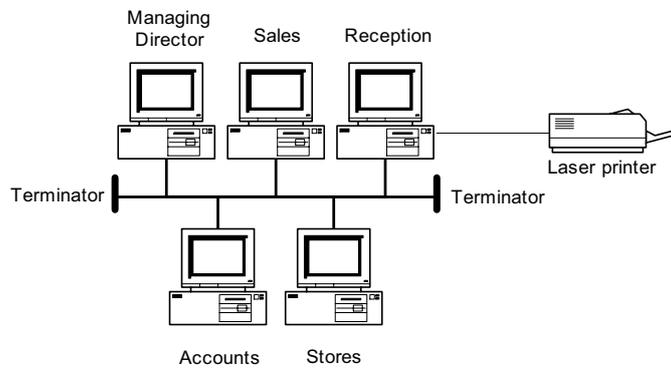


Figure 1

The Managing Director of the company approached an external consultancy firm to design an information and communications infrastructure that would support the current information needs and future growth of Superior Leather Pty Ltd. After consultation it was agreed that the company would move to a Client Server based network.

Figure 2 represents the new network. The recommended physical media for the network is CAT-5 Unshielded Twisted Pair Cable.

Proposed new network topology

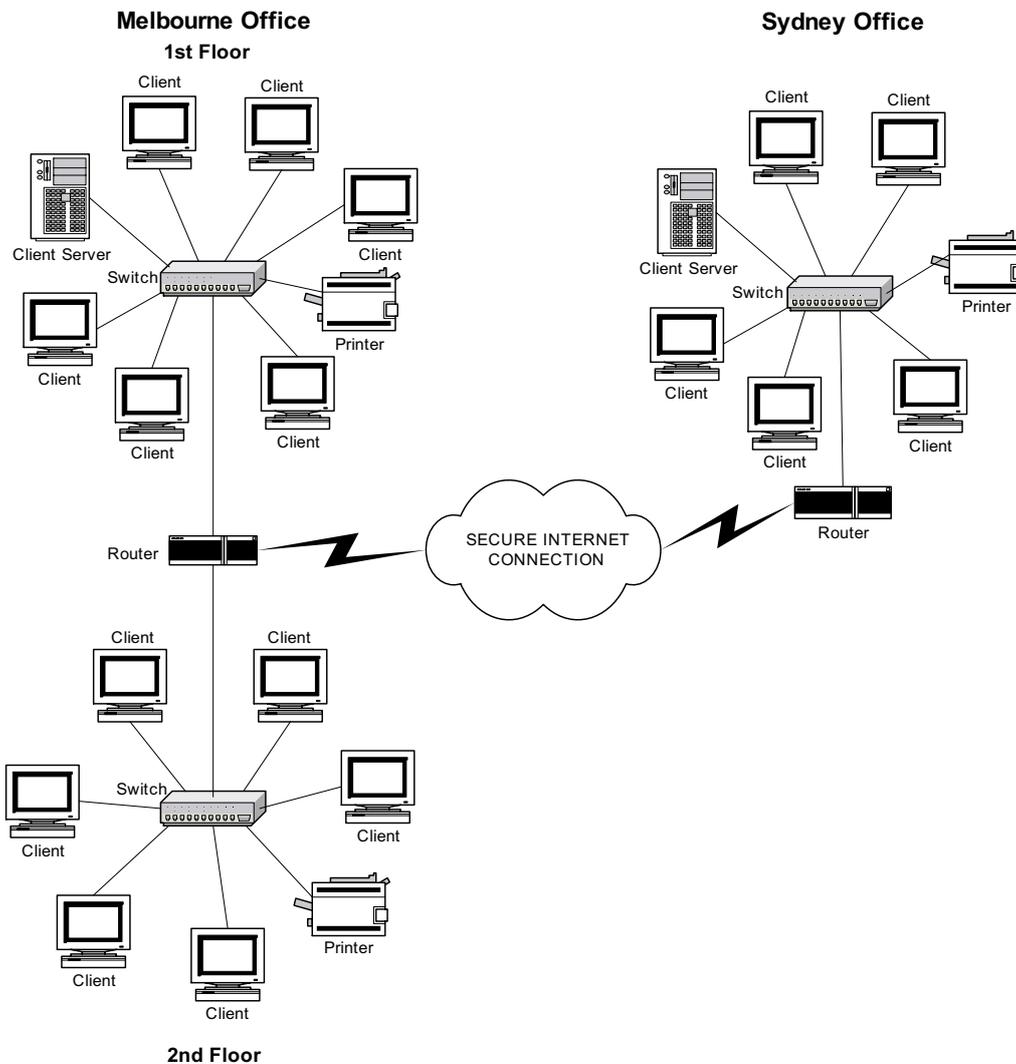


Figure 2

As the successful applicant for the Network Administrator's position, you have been requested by the Managing Director to provide input into the development and configuration of the new network.

Question 1

Figure 1 details the existing computer network installed at the Melbourne office.

Name the type of physical network topology used in the existing network.

1 mark

Question 2

Figure 2 details the proposed new network to be implemented by the end of the financial year.

List **two** advantages associated with the use of this type of network topology compared to the original network at the Melbourne office (Figure 1).

2 marks

Question 3

Name the proposed new network solution (Figure 2). Explain why this network solution would be proposed.

2 marks

Question 4

With the proposed installation of the new network, the company can now provide a secure environment for network resources, directories and files.

A possible directory structure for the company’s server is included below (Figure 3).

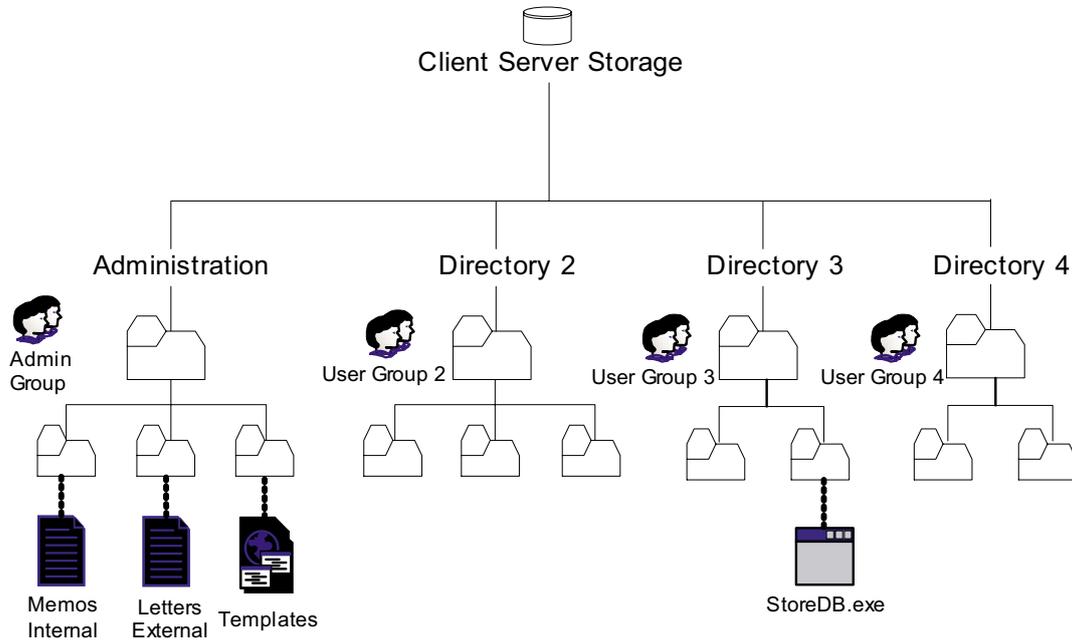


Figure 3

- a. Name the generic User Group 3 (above) that you would create for Superior Leather Pty Ltd.

The Managing Director of the company requires full access rights to the four directories you have created.

- b. What is the most efficient way that this can be done?

1 + 1 = 2 marks

Question 5

As the Network Administrator, you have assigned the following directory permissions (Figure 4) for the Admin user group. The permissions have been assigned at the Administration directory level.

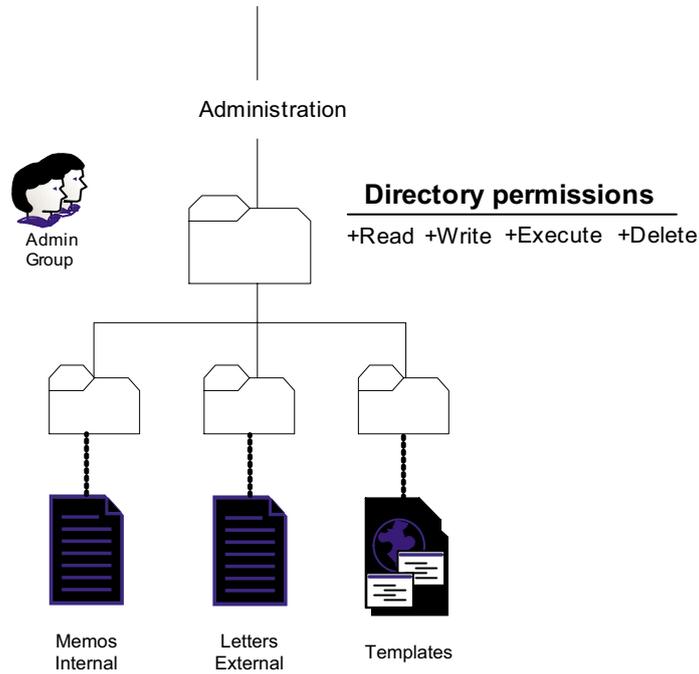


Figure 4

- a. What file permissions will the Admin user group have in the templates subdirectory? Explain why.

The Managing Director is concerned that members of the Admin user group can delete and/or change company template files.

- b. How can you prevent this?

2 + 2 = 4 marks

Question 6

The consultancy firm employed by the Managing Director advised the company to install a RAID system on the Client Server.

- a. How will this assist the company in the maintenance of its system's integrity?

- b. Why would a data back-up system still be required to ensure integrity of data?

The Account Manager reported to the company's Help Desk. His desktop computer is operational but not communicating with the Client Server. All other clients can access the network.

- c. List **two** possible problems that could cause this type of failure.

1. _____

2. _____

1 + 1 + 2 = 4 marks

Question 7

Maintaining a network can be both time consuming and complex. A range of audits must be completed by the Network Administrator when the network is commissioned.

- a. Why are network audits necessary?

- b. Describe the term 'benchmark' (baseline) as referred to in an audit.

- c. List **three** audits that should be performed on a new network.

1. _____

2. _____

3. _____

1 + 1 + 3 = 5 marks

Total 20 marks