



**Victorian Certificate of Education  
2004**

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**STUDENT NUMBER**

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

**Friday 29 October 2004**

**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	20	20	45
C	7	7	18
			Total 83

- 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 19 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**

You want to obtain feedback about a software package from a very large group of users working for a national company. The most efficient way to do this would be to

- A. observe a group of users.
- B. conduct an online survey of the users.
- C. conduct interviews with each of the users.
- D. ask other companies using the same package.

**Question 2**

Which one of the following is **not** a feature of the system specifications for software?

- A. cost
- B. RAM
- C. processor speed
- D. hard disk capacity

**Question 3**

Which one of the following is a **required** feature for an operating system?

- A. web interface
- B. graphic user interface
- C. file management capabilities
- D. software drivers for a sound card

**Question 4**

A virus **cannot** spread to a floppy disk if the disk is

- A. full.
- B. bootable.
- C. formatted.
- D. write protected.

**Question 5**

The best people to test user documentation for software newly introduced to an organisation are

- A. the users of the software.
- B. the technicians installing the software.
- C. the accountant signing the cheque to pay for the software.
- D. the software developers at the company selling the software.

**Question 6**

The primary purpose of a 'quick reference card' is to

- A. list key steps for common functions of hardware or software.
- B. list contact details for hardware or software manufacturers.
- C. provide full specifications for hardware or software.
- D. maintain a log of Help Desk calls.

**Question 7**

A customer phones the Help Desk asking for instructions to install a sound card.

Which instruction should the Help Desk operator give **first**?

- A. turn the power off
- B. load the sound card driver
- C. switch the PC on and login to the Help Desk
- D. take the cover off and plug the card into the expansion slot

**Question 8**

Signing off new user documentation should only occur after which of the following stages is complete?

- A. supervisors have checked the user documentation
- B. alterations are made to documentation according to feedback
- C. a meeting to discuss the appropriateness of documentation is held
- D. surveys of users carried out to evaluate the documentation are returned

**Question 9**

User documentation is most likely to be used by a

- A. systems designer.
- B. systems engineer.
- C. database designer.
- D. database input operator.

**Question 10**

A large organisation has user documentation that is regularly accessed by staff. The documentation needs to be constantly updated to ensure it is current.

The **most** suitable place for the user documentation to be accessed would be the

- A. World Wide Web.
- B. organisation's Intranet.
- C. CD-ROM in the library.
- D. hard copy at the Help Desk.

**Question 11**

You have written a macro that performs a task correctly and very efficiently in the operating environment. The supervisors have reported back to you that although all operators have been trained to use the new macro, very few are using it.

What is the **most** appropriate action to take to get the operators to use the macro?

- A. check the installation of the macro again
- B. provide online assistance in the use of the macro
- C. provide lunchtime training in the operation of the macro
- D. interview the operators to discover their reasons for not using the macro

**Question 12**

A new operating system has just been installed on your personal computer and the following instructions have been left on your desk.

*Hold the Control+Alt keys and press delete to get a login screen*

*Enter your Username and Password*

You ring the Help Desk and explain that you have never had to login before and do not understand the instructions.

What is the **most** appropriate response from the Help Desk?

- A. give you the Username and Password over the phone and talk you through the login procedure
- B. send you an email with your Username and Password plus instructions on how to login to the computer
- C. arrange for a person with the skills and knowledge to provide you with training on how the new operating system works
- D. send you a copy of the CD-ROM that came with the operating system so that you can access the Read Me files for yourself

**Question 13**

Desktop publishing software was upgraded on all office PCs a month ago. Help Desk staff have sent an online evaluation form to all users of this upgraded software.

The purpose of this online evaluation and feedback form is to

- A. check whether all users' emails are working.
- B. confirm that the software is performing as expected.
- C. confirm that the latest virus software service pack was installed.
- D. obtain all users' computer details for the Help Desk database.

**Question 14**

Pat wants to buy two new software packages for the computer system his company uses. The system requirements for each software package are outlined below.

Software package	RAM	Hard drive
1	256	30 MB
2	256	40 MB

What is the minimum specification Pat will need to install **both** new software packages?

- A. 256 MB RAM and 30 MB hard disk
- B. 256 MB RAM and 70 MB hard disk
- C. 512 MB RAM and 30 MB hard disk
- D. 512 MB RAM and 40 MB hard disk

**Question 15**

Before providing personal computer training to a user you should

- A. discuss their requirements and develop their skill level.
- B. not worry about their skill level and just prepare the training.
- C. check their current skill level and discuss their requirements.
- D. prepare all the training materials and arrange the time for the training.

**Question 16**

TCP/IP is used on the Internet to allow communication.

What does TCP/IP stand for?

- A. Transmission Control Protocol/Internet Protocol
- B. Transmission Control Protocol/Internet Provider
- C. Transient Computer Protocol/Internet Protocol
- D. Transient Computer Protocol/Internet Provider

**Question 17**

A standard holiday request form for an organisation would be best completed using

- A. a customised toolbar.
- B. an auto text.
- C. a template.
- D. a macro.

**Question 18**

Mark wants to upgrade the web site and software his company uses to collect and process data from clients online. He is planning online help for his existing clients.

Which change is most likely to cause his clients the greatest problems?

- A. using new data file formats
- B. using icons as well as menus for links
- C. finding new options in the help menus
- D. finding the menu in a new location on the screen

**Question 19**

Most computer operating systems have a boot mode known as 'safe mode'.

Safe mode boots the operating system with a minimum configuration and can be used to

- A. install new hardware or software when it is not recognised during the boot process.
- B. solve problems when new hardware or software installation is causing problems.
- C. provide access to the network if the network card drivers have not been installed.
- D. allow software and hardware to be tested before the operating system is upgraded.

**Question 20**

Which one of the following best describes the actions of a 'disaster recovery plan'?

- A. periodically changing all passwords
- B. destroying all old versions of user documentation when a system is upgraded
- C. replacing hard drives when full capacity is reached
- D. restoring your critical services and data after a major failure of the services

**SECTION B – Short-answer questions****Instructions for Section B**

Answer **all** questions in the spaces provided.

**Question 1**

The owner of a small business is looking for new chairs for the computer workstations.

- a. Name **one** 'ergonomic' feature a chair should have to ensure the health and safety of the computer users.

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- b. Explain how this feature adds to the health and safety of the users.

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1 + 1 = 2 marks

**Question 2**

A computer technician has been asked to prepare some PCs for recycling. These computers have confidential data on them that must be removed.

How could the technician permanently remove the data without damaging the hard disk? Explain your answer.

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2 marks

**Question 3**

Every time Jean opens her word processing software a standard blank letter appears. Most of her work involves typing reports, not letters.

- a. What change could be made so that Jean has a blank standard report open each time?

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- b. How could this change be achieved?

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1 + 1 = 2 marks

**Question 4**

You are an IT consultant and have been contacted by the management of Icarus Internet. They are dissatisfied with the performance of their IT Help Desk and ask you to draw up a **service level agreement** for their Help Desk.

List **three** major points that should be included in the agreement.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

3 marks

**Question 5**

The file in the AFL computer system that contains the ticket prices for finals matches is marked as 'read only'.

a. What does **read only** mean?

\_\_\_\_\_

b. Explain why the file containing ticket prices is **read only**.

\_\_\_\_\_

1 + 1 = 2 marks

**Question 6**

RAM and ROM are two common types of memory.

Explain **two** differences between them.

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_

2 marks

**Question 7**

The Australian Army has a server that is set up with a licence for 30 concurrent users. The office that this computer services works 24 hours per day with 3 shifts and has the following staff who all use computers.

Staff	Morning shift	Afternoon shift	Night shift
Managers	2	5	1
Data entry officers	15	25	2
Data analysts	5	5	3

Has the army breached its licensing agreement? Explain your answer.

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2 marks

**Question 8**

a. Why is it important to list the Occupational Health and Safety (OH&S) standard in a policy and procedures document for an IT business?

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b. List **two** items that should be included in an OH&S policy document for an IT business.

1. \_\_\_\_\_
2. \_\_\_\_\_

1 + 2 = 3 marks

**Question 9**

The Help Desk has scheduled the installation of an upgraded operating system in two weeks. The Help Desk sends an email to all the affected users to notify them of the upgrade.

List **three** reasons why the Help Desk would notify the users in advance.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

3 marks



**Question 10**

Joan works for a company that has taken over another business. The computers in each business use a different operating system. An emulation program has been installed on Joan's computer to assist her with work that covers tasks from both businesses.

a. What is an emulation program?

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b. How would this emulation program benefit Joan's company?

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1 + 1 = 2 marks

**Question 11**

**Telephone** support is a widely used form of Help Desk service.

Explain how this support strategy works.

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2 marks

**Question 12**

Maintenance of your hard disk drive on a PC is important.

List **two** maintenance tasks that should be conducted on a regular basis.

1. 

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2. 

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2 marks

**Question 13**

A computer technician installs a new 180 GB hard drive into an 'older' computer. When she prepares to partition the drive, a message appears indicating that the drive is only 137 GB in size.

a. What could be the cause of this problem?

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b. How could the computer technician solve this problem?

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1 + 1 = 2 marks

**Question 14**

The owners of a small clothing business have limited knowledge of computers. They ask you why they should upgrade their computer operating system.

List **two** reasons you could give.

1. \_\_\_\_\_

2. \_\_\_\_\_

2 marks

**Question 15**

A business computer magazine advertises that a software program can be 'easily installed and configured by following screen prompts'.

a. What does this mean?

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b. Give one example of configuring.

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2 marks

**Question 16**

Keith, a computer manager for a share-trading firm, has become aware of problems with workstation security. He knows that some staff are sharing their passwords to get around the security.

Keith is investigating the use of 'biometric' scanning devices that read fingerprints. These would be installed at each workstation and automatically log the user in. If the screen saver comes on, the fingerprint would again be required to unlock the workstation. This system can also be upgraded with finger print scanners able to open doors.

- a. How would the use of biometrics improve the security of the organisation?

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- b. Suggest **two** procedures Keith needs to follow when staff who use the biometric security leave the organisation.

1. \_\_\_\_\_

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2. \_\_\_\_\_

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1 + 2 = 3 marks

**Question 17**

Some companies offer to backup an organisation's important files by encrypting and moving them electronically to an offsite storage location.

Identify **two** potential problems with storing data backups in this way.

1. \_\_\_\_\_

2. \_\_\_\_\_

2 marks

**Question 18**

Big Time Software is selling a new software package for small business.

The Help Desk at Big Time Software has been asked to monitor all reported problems with the new software.

a. Describe **one** procedure the Help Desk could use to monitor such problems.

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The owner of one small business that has purchased this software package wants to know what type of software failures Big Time Software is obliged to fix.

b. What answer would you give?

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2 + 1 = 3 marks

**Question 19**

List **two** reasons why it is important to obtain feedback from clients who are being trained in the use of a new operating system.

1. \_\_\_\_\_
2. \_\_\_\_\_

2 marks

**Question 20**

A computer retailer recommends that the new computers in a public library all have USB ports.

What are **two** benefits of upgrading to USB technology?

1. \_\_\_\_\_
2. \_\_\_\_\_

2 marks

Total 45 marks

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**TURN OVER**

**SECTION C – Case study****Instructions for Section C**

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

You are the network administrator at Beasla Foods Pty Ltd, a food processing company. Its operations are situated on a site comprising two large single-storey buildings. The buildings are 300 metres apart.

**Building A** houses its Administration and Sales departments.

**Building B** houses its Production, Stores and delivery departments.

Over the last year, Beasla Foods has upgraded the network infrastructure in **Building A** to a fully switched network (Figure 2). It has replaced its thin coax cable backbone and 10BaseT network with a 1 Gigabit per second (Gbps) fibre backbone and 10/100 capable switches using Cat 5e unshielded twisted pair (UTP) cable. All servers, PCs, printers and network devices have been upgraded to use the new network infrastructure. Internet and email access has been included as part of the upgrade.

Beasla Foods is now in the process of upgrading **Building B**. **Building B** will be connected back to **Building A** via fibre cable in an underground conduit. This link will replace a number of dial-up modem links (shown in Figure 1).

All servers, desktop PCs, printers and network devices in **Building B** that need network connectivity will be upgraded or replaced to allow them to use the capabilities of the upgraded network.

Internet access will be via a 1 Megabit link in **Building A**, with connectivity through a router and firewall.

All networked computers will have Internet and email access.

All desktop PCs will operate in a client-server environment no longer using local data and printer sharing.

Most of the servers will be located in **Building A**. These will include email, DNS, proxy and administration servers. The servers that house production information and stores and delivery information will be located in **Building B**.

Currently no servers are located in **Building B** and staff have sharing enabled on their PCs to allow the sharing of data and printers.

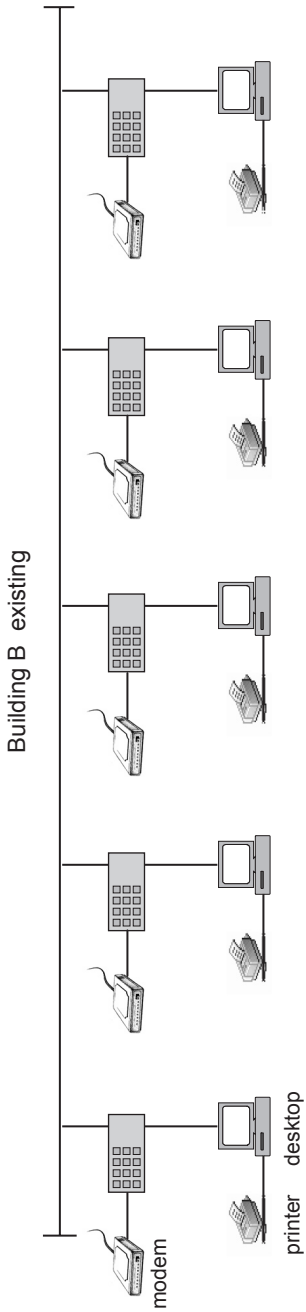


Figure 1

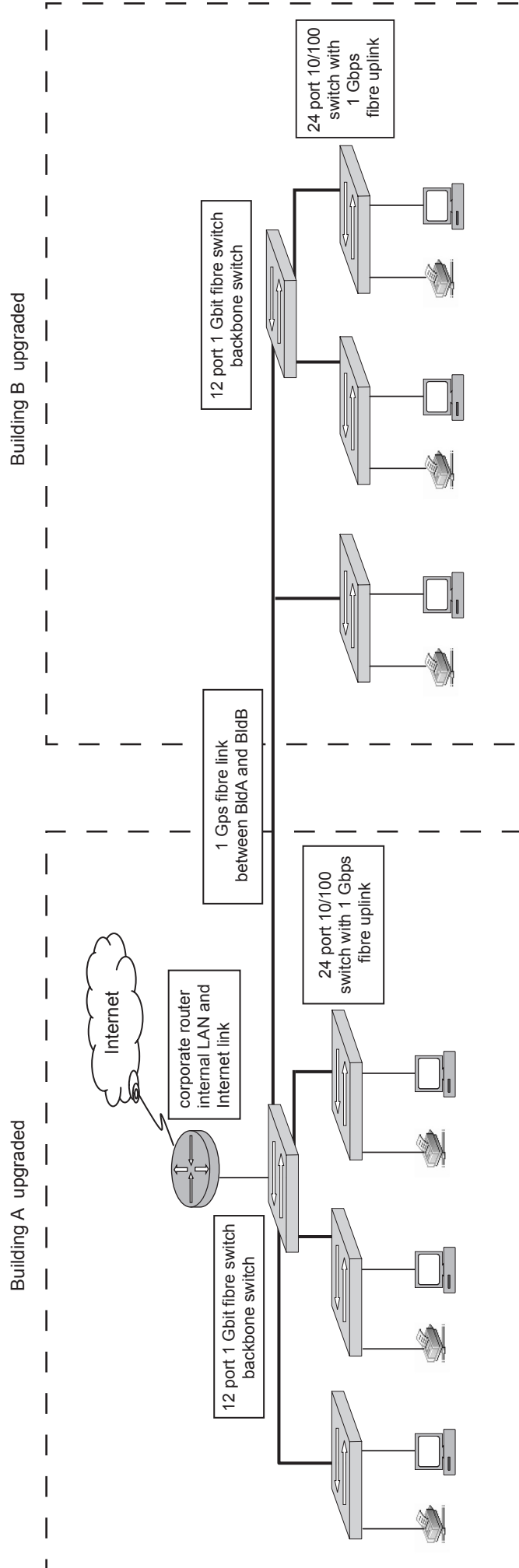


Figure 2

**Question 1**

The existing network configuration in **Building B** (shown in Figure 1) does not have any servers installed. All the users have sharing enabled on their PCs to allow other users access to the stored information. Printers are also shared in this way.

- a. Name this type of network configuration.

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The new client-server network configuration (shown in Figure 2) offers some advantages over the old configuration.

- b. What would be **two** advantages in using the client-server configuration?

1. \_\_\_\_\_

2. \_\_\_\_\_

1 + 2 = 3 marks

**Question 2**

The network upgrade will provide many benefits for all the users.

What is **one** benefit for the users? Explain the benefit.

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2 marks



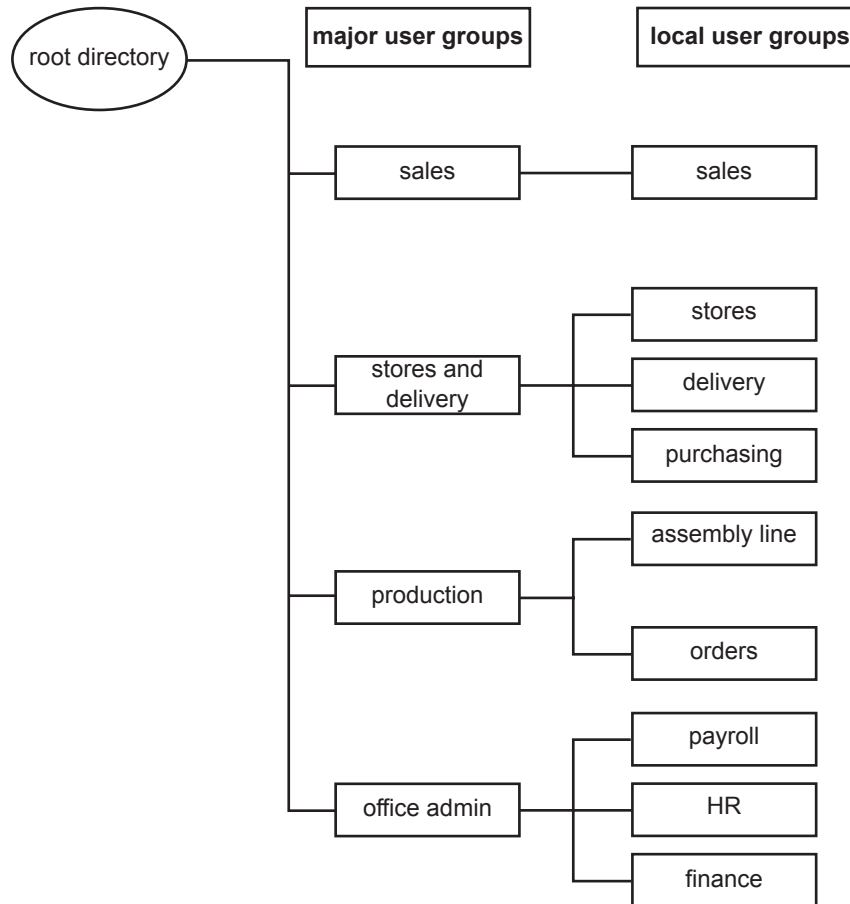
### Question 3

As network administrator you are responsible for managing network security and providing authorised access to network resources such as folders, files and applications.

After discussions with the four department managers and other relevant staff, you created four major user groups: Office Administration, Production, Stores and delivery, Sales.

Within these Major User groups, you then created Local User groups. All staff are made members of the relevant user group.

The relevant applications and databases were then made available to the various groups.



**Figure 3.** Folder/directory structure with major user groups and local user groups

The sales manager needs regular access to **Production** (orders and assembly line) and **Stores and delivery** (purchasing, delivery and stores).

a. What is the most effective way you can achieve this?

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b. Give **one** reason why the network administrator needs to be a member of the four major user groups.

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1 + 1 = 2 marks

**Question 4**

As part of your role as network administrator, you have implemented folder/file permissions. The department managers and their assistants all have create, read, write, delete and execute permissions to their relevant user groups and folders. The users in the Local User groups have only read, write and execute permissions.

Explain why the Local Users do not have the same permissions as the department managers.

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2 marks

**Questions 5**

Beasla Foods policy and procedures state that all users must login to the network with a valid username and password before they can have access to any of the network services. The policy and procedures also state that passwords need to be changed every 30 days.

a. Why do the users need a valid login and password to access the network services?

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b. Why do the passwords need to be changed on a regular basis?

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1 + 1 = 2 marks

**Question 6**

As the network administrator, you have decided to install Uninterruptible Power Supplies (UPSs) on all the file servers and WAN/LAN devices such as routers and switches. A backup regime using tape drives is in place for all corporate databases. You are also recommending the purchase of a maintenance agreement from a reputable IT support organisation for all the file servers.

a. Why are the UPSs being installed?

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b. How will the backup regime assist in disaster recovery and contingency planning?

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c. Explain why you are recommending the purchase of a maintenance agreement for the servers and LAN/WAN devices.

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1 + 1 + 2 = 4 marks

**Question 7**

Fault diagnosis and repair can be difficult and take a lot of time. A number of tools are available to assist in fault diagnosis. The tools may be either hardware or software. You have received a call through the Help Desk that there seems to be a network problem in the Sales department. It seems no one in the Sales department can login to the network. All other departments are able to login.

To help with the diagnosis of the fault, you look up the network documentation.

- a. What help will the documentation be to you?

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- b. How will a cable tester assist you in diagnosing the network fault?

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To assist with network troubleshooting, network audits need to be carried out periodically. The first one should be when the network first becomes operational.

- c. Why is this first audit necessary?

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1 + 1 + 1 = 3 marks

Total 18 marks