



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY  
Faculty of Computing and Informatics**

Department of Informatics

<b>QUALIFICATION : POSTGRADUATE CERTIFICATE IN INFORMATICS (INFORMATION SYSTEMS AUDIT)</b>	
<b>QUALIFICATION CODE:</b> 08PGCI	<b>LEVEL:</b> 8
<b>COURSE:</b> ACCOUNTING INFORMATION SYSTEMS	<b>COURSE CODE:</b> AIS822S
<b>DATE:</b> JANUARY 2020	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 Hours	<b>MARKS:</b> 100

<b>SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	Mr Munyaradzi Maravanyika
<b>MODERATOR:</b>	Ms Valerie Garises

<b>INSTRUCTIONS</b>
<ol style="list-style-type: none"><li>1. Answer ALL the questions.</li><li>2. Write clearly and neatly.</li><li>3. Number the answers clearly.</li><li>4. Do not use additional materials</li><li>5. Cross out any work which should not be marked.</li><li>6. No pencil work allowed except for diagrams where requested.</li></ol>

**THIS QUESTION PAPER CONSISTS OF 3 PAGES**  
(Excluding this front page)

**Case Scenario**

Read the following case carefully and use it to answer Section A of this paper.

Namib CC., has the following processes related to purchasing:

When it is determined that an item should be ordered, the purchasing department prepares a three - copy PO. The first copy is mailed to the vendor, the second copy is filed by PO number in the purchasing department, and the third copy is forwarded to inventory control. Inventory control updates the inventory ledger with the quantities that were ordered and files the PO copy by date.

When ordered items arrive at the receiving dock, the packing slip is inspected and a two - copy receiving report is prepared. The first copy is forwarded to the purchasing department, where it is filed with the PO. The second copy is filed in the receiving department by date. The packing slip is forwarded to the accounts payable department.

Suppliers mail invoices directly to the accounts payable department. The accounts payable department reviews the invoice and related packing slip, prepares a cash disbursement voucher, updates the accounts payable ledger, and files the invoice by date. The cash disbursement voucher is forwarded to the cash disbursements department.

The packing slip is returned to the receiving department. The cash disbursements department prepares a two - copy check, mails the first copy to the vendor, and forwards the second copy to the general ledger department. The cash disbursement voucher is forwarded to the accounts payable department where it is filed with the invoice.

The general ledger department updates the general ledger accounts, using the second copy of the check, and then forwards the check copy to cash disbursements to be filed by check number.

**SECTION A: CASE STUDY QUESTIONS**

**[60 MARKS]**

**Question 1**

**[10 marks]**

Prepare a process diagram of the first three paragraphs of Namib CC. processes scenario (the bold section).

**Question 2**

**[5 marks]**

Explain how using a group coding scheme to design the supplier number may benefit Namib CC. in terms of effectiveness and efficiency of its internal processes.

**Question 3**

**[15 marks]**

Discuss the concept of internal computer fraud and how internal computer fraud may be perpetrated within Namib CC. using input manipulation, program manipulation and output manipulation.

**Question 4****[10 marks]**

Explain why an enforced code of ethics may have more impact in deterring upper-level management fraud than the implementation of internal controls.

**Question 5****[20 marks]**

Identify any weaknesses in internal controls within the purchase processes of Namib CC. and indicate the improvements you would suggest.

**SECTION B: STRUCTURED QUESTIONS****[40 MARKS]****Question 6****[15 marks]**

A manager suspects that certain employees are ordering merchandise for themselves over the Internet without recording the purchase or receipt of the merchandise. When vendor's invoices arrive, one of the employees approves the invoices for payment. After the invoices are paid, the employee destroys the invoices and related vouchers. The manager has been advised it would be best to begin tracing from the cash disbursements to trace whether this is actually happening. Do you agree with this advice? Support your answer.

**Question 7****[25 marks]**

Ozongejama Engineering Corp (OEC) operates in five SADC countries. OEC faced a crucial decision: choosing network software that would maximize functionality, manageability, and end-user acceptance of the system. OEC developed and followed a four-step approach:

***Step 1.***

Develop evaluation criteria. OEC organised a committee that interviewed users and developed the following evaluation criteria:

- Ease of use
- Scope of vendor support
- Ease of network management and administration
- Cost, speed, and performance
- Ability to access other computing platforms
- Security and control
- Fault tolerance and recovery abilities
- Ability to connect workstations to the network
- Global naming services
- Upgrade and enhancement options
- Vendor stability

OEC organized the criteria into the following four categories and prioritized them. Criteria vital to short-term and long-term business goals were given a 5. "Wish list" criteria were weighted a 3. Inapplicable criteria were given a 1.

1. Business criteria: overall business, economic, and competitive issues
2. Operational criteria: tactical issues and operating characteristics
3. Organizational criteria: networks' impact on the information systems structure

4. Technical criteria: hardware, software, and communications issues

**Step 2.**

Define the operating environment. Several data-gathering techniques were used to collect information from which an information systems model was developed. The model revealed the need to share accounting, sales, marketing, and engineering data at three organizational levels: district, division, and home office. District offices needed access to centralized financial information to handle payroll. OEC needed a distributed network that allowed users throughout the organization to access company data.

**Step 3.**

Identify operating alternatives. Using the criteria from step 1, committee members evaluated each package and then compared notes during a roundtable discussion.

**Step 4.**

Test the software. The highest-scoring products were tested, and the product that fit the organization's needs the best was selected.

- a. Discuss the committee's role in the selection process. [5]
- b. What are the pros and cons of using a committee to make the selection? [5]
- c. What data-gathering techniques could WEC use to assess user needs and select a supplier? [5]
- d. What is the benefit of analysing the operating environment before selecting the software? [5]
- e. Justify whether a purchase decision be made on the point scoring process alone? [5]

**End of question paper**





**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY  
FACULTY OF COMPUTING AND INFORMATICS**

**DEPARTMENT OF INFORMATICS**

<b>QUALIFICATION :</b> POSTGRADUATE CERTIFICATE IN INFORMATICS (INFORMATION SYSTEMS AUDIT)	
<b>QUALIFICATION CODE:</b> 08PGCI	<b>LEVEL:</b> 8
<b>COURSE CODE:</b> AIS822S	<b>COURSE NAME:</b> ACCOUNTING INFORMATION SYSTEMS
<b>SESSION:</b> JANUARY 2020	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>SECOND OPPORTUNITY/SUPPLEMENTARY MEMORANDUM</b>	
<b>EXAMINER(S)</b>	MR MUNYARADZI MARAVANYIKA
<b>MODERATOR:</b>	MS VALERIE GARISES

<b>INSTRUCTIONS</b>
<ol style="list-style-type: none"><li>1. Please use the memorandum or sample solutions to guide your marking.</li><li>2. Use the marks allocated as a guide to mark</li><li>3. Reasonable, in depth and innovative correct solutions provided by the students should be allocated marks even if not provided in the memorandum.</li><li>4. Take note of the marks allocated to each question.</li></ol>

**PERMISSIBLE MATERIALS**

None

**THIS QUESTION PAPER CONSISTS OF 8 PAGES** (Including this front page)

**Case Scenario**

**Read the following case carefully and use it to answer Section A of this paper.**

Namib CC., has the following processes related to purchasing:

When it is determined that an item should be ordered, the purchasing department prepares a three - copy PO. The first copy is mailed to the vendor, the second copy is filed by PO number in the purchasing department, and the third copy is forwarded to inventory control. Inventory control updates the inventory ledger with the quantities that were ordered and files the PO copy by date.

When ordered items arrive at the receiving dock, the packing slip is inspected and a two - copy receiving report is prepared. The first copy is forwarded to the purchasing department, where it is filed with the PO. The second copy is filed in the receiving department by date. The packing slip is forwarded to the accounts payable department.

Suppliers mail invoices directly to the accounts payable department. The accounts payable department reviews the invoice and related packing slip, prepares a cash disbursement voucher, updates the accounts payable ledger, and files the invoice by date. The cash disbursement voucher is forwarded to the cash disbursements department.

The packing slip is returned to the receiving department. The cash disbursements department prepares a two - copy check, mails the first copy to the vendor, and forwards the second copy to the general ledger department. The cash disbursement voucher is forwarded to the accounts payable department where it is filed with the invoice.

The general ledger department updates the general ledger accounts, using the second copy of the check, and then forwards the check copy to cash disbursements to be filed by check number.

**SECTION A: CASE STUDY QUESTIONS**

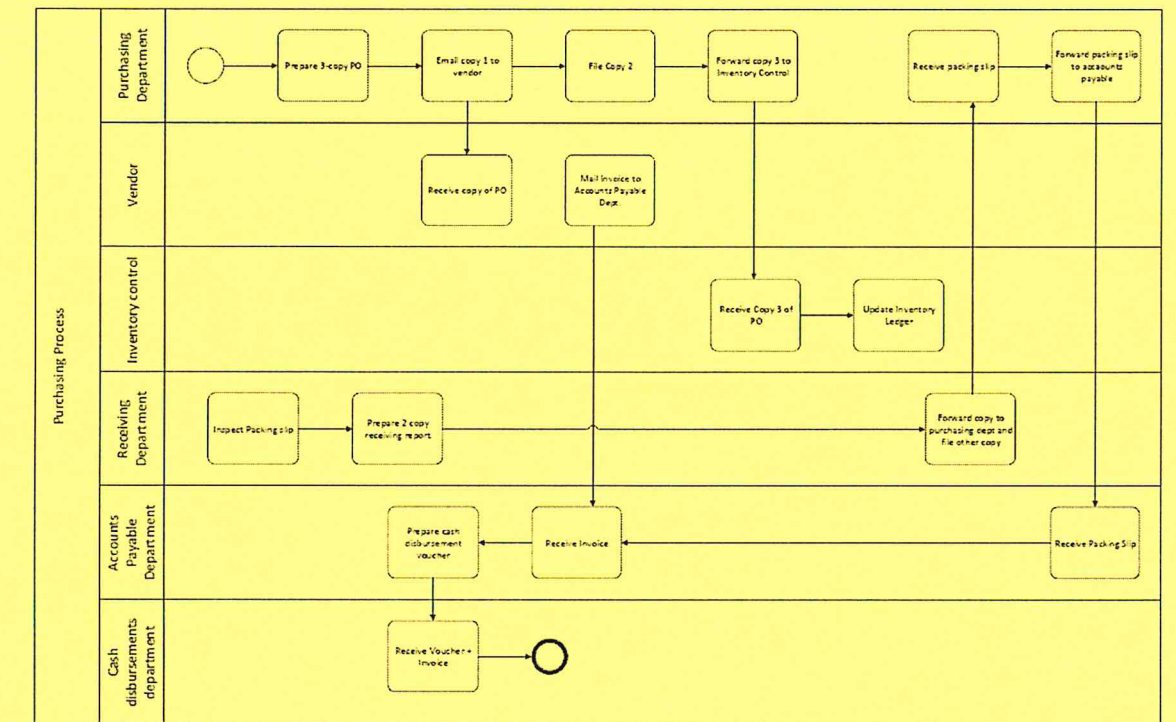
**[60 MARKS]**

**Question 1**

**[10 marks]**

Prepare a process diagram of the first three paragraphs of Namib CC. processes scenario (the bold section).





**Question 2**

[5 marks]

Explain how using a group coding scheme to design the supplier number may benefit Namib CC. in terms of effectiveness and efficiency of its internal processes.

*Solution*

*Group codes - Two or more subgroups of digits that are used to code an item. A group code is often used in conjunction with a block code.*

*Example:*

DIGIT POSITION	MEANING
1-2	Product line, size, style
3	Color
4-5	Year of manufacture
6-7	Optional features

*There are four sub-codes in the product code, each with a different meaning.*

*Users can sort, summarize, and retrieve information using one or more sub-codes.*

*This technique is often applied to general ledger account numbers.*

**Question 3**

[15 marks]

Discuss the concept of internal computer fraud and how internal computer fraud may be perpetrated within Namib CC. using input manipulation, program manipulation and output manipulation.

*Solution*

**Input manipulation** usually involves altering data that is input into the computer.

- For example, altering payroll timecards to be entered into a computerized payroll system is a type of input manipulation.
- Other examples of input manipulation would be creating false or fictitious data inputs, entering data without source documents, or altering payee addresses of vendors or employees.

**Program manipulation** occurs when a program is altered in some fashion to commit a fraud.

- Examples of program manipulation include the salami technique, Trojan horse programs, and trap door alterations.
- A fraudster may use the salami technique to alter a program to slice a small amount from several accounts and then credit those small amounts to the perpetrator's benefit.
- For example, a program that calculates interest earned can be altered to round down to the lower 10-cent amount; that small excess of interest earned can be deposited to the perpetrator's account. Although it would take many transactions of this type to be of much benefit, the nature of interest calculation is such that it occurs frequently on many accounts; therefore, the amount of the fraud benefit could build quickly.
- A Trojan horse program is a small, unauthorized program within a larger, legitimate program, used to manipulate the computer system to conduct a fraud.
- For example, the rogue program might cause a certain customer's account to be written off each time a batch of sales or customer payments are processed.
- A trap door alteration is a valid programming tool that is misused to commit fraud.
- As programmers write software applications, they may allow for unusual or unique ways to enter the program to test small portions, or modules, of the system.
- These entranceways can be thought of as hidden entrances, or trap doors.
- Before the program is placed into regular service, the trap doors should be removed, but a programmer may leave a trap door in place in order to misuse it to commit fraud.

**Computer systems generate many different kinds of output**, including checks and reports.

- If a person alters the system's checks or reports to commit fraud, this is known as output manipulation.
- This kind of fraud is often successful simply because humans tend to trust the output of a computer and do not question its validity or accuracy as much as they might if the output were manually produced

#### Question 4

[10 marks]

Explain why an enforced code of ethics may have more impact in deterring upper-level management fraud than the implementation of internal controls.

#### Solution

- A code of ethics is a set of documented guidelines for moral and ethical behaviour within the organization.
- It is management's responsibility to establish, enforce, and exemplify the principles of ethical conduct valued in the organization.
- Upper-level managers are above the level of internal controls;
- Therefore, internal control systems, matching documents, or segregating duties have little impact on the prevention of fraud by upper-level management.
- Having and enforcing a code of ethics sets the proper "tone at the top" and makes it more difficult for upper-level managers to conduct fraud.
- As has become obvious with the flood of accounting fraud scandals at companies such as Enron, WorldCom, Global Crossing, and others, top management does not always exhibit ethical behaviour.
- If management does not demonstrate ethical behaviour, employees at all levels are much more likely to follow suit in their disregard for ethical guidelines.
- Management that emphasizes and models ethical behaviour is more likely to encourage ethical behaviour in employees.



**Question 5****[20 marks]**

Identify any weaknesses in internal controls within the purchase processes of Namib CC. and indicate the improvements you would suggest.

**Authorization**

- *Transaction authorization in real-time processing systems is an automated task.*
- *Management and accountants should be concerned about the correctness of the computer-programmed decision rules and the quality of the data used in this decision.*
- *In POS systems, the authorization process involves validating credit card charges and establishing that the customer is the valid user of the card.*
- *After receiving online approval from the credit card company, the clerk should match the customer's signature on the sales voucher with the one on the credit card.*

**Segregation of Duties**

- *Tasks that would need to be segregated in manual systems are often consolidated within computer programs.*
- *For example, a computer application may perform such seemingly incompatible tasks as inventory control, AR updating, billing, and general ledger posting.*
- *In such situations, management and auditor concerns are focused on the integrity of the computer programs that perform these tasks.*
- *They should seek answers to such questions as: Is the logic of the computer program correct? Has anyone tampered with the application since it was last tested? Have changes been made to the program that could have caused an undisclosed error?*
- *Answers to the questions lie, in part, in the quality of the general controls over segregation of duties related to the design, maintenance, and operation of computer programs.*
- *Programmers who write the original computer programs should not also be responsible for making program changes.*
- *Both of these functions should also be separate from the daily task of operating the system.*

**Supervision**

- *In an earlier discussion, we examined the importance of supervision over cash-handling procedures in the mail room.*
- *The individual who opens the mail has access both to cash (the asset) and to the remittance advice (the record of the transaction).*
- *A dishonest employee has an opportunity to steal the check and manual mail room procedures are in place.*
- *In a POS system, where both inventory and cash are at risk, supervision is particularly important. Customers have direct access to inventory in the POS system, and the crime of shoplifting is of great concern to management.*
- *Surveillance cameras and shop floor security personnel can reduce the risk.*
- *These techniques are also used to observe sales clerks handling cash receipts from customers. In addition, the cash register's internal tape is a form of supervision.*
- *The tape contains a record of all sales transactions processed at the register. Only the clerk's supervisor should have access to the tape, which is used at the end of the shift to balance the cash drawer.*

**Access Control**

- *In computerized systems, digital accounting records are vulnerable to unauthorized and undetected access.*



- This may take the form of an attempt at fraud, an act of malice by a disgruntled employee, or an honest accident.
- Additional exposures exist in real-time systems, which often maintain accounting records entirely in digital form.
- Without physical source documents for backup, the destruction of computer files can leave a firm with inadequate accounting records.
- To preserve the integrity of accounting records, Sarbanes-Oxley legislation requires organization management to implement controls that restrict unauthorized access.
- Also at risk are the computer programs that make programmed decisions, manipulate accounting records, and permit access to assets.
- In the absence of proper access controls over programs, a firm can suffer devastating losses from fraud and errors. Thus, current laws require management to implement such controls.
- Because POS systems involve cash transactions, the organization must restrict access to cash assets.
- One method is to assign each sales clerk to a separate cash register for an entire shift. When the clerk leaves the register to take a break, the cash drawer should be locked to prevent unauthorized access.
- This can be accomplished with a physical lock and key or by password.
- At the end of the clerk's shift, he or she should remove the cash drawer and immediately deposit the funds in the cash room.
- When clerks need to share registers, responsibility for asset custody is split among them and accountability is reduced.
- Inventory in the POS system must also be protected from unauthorized access and theft. Both physical restraints and electronic devices are used to achieve this.
- For example, steel cables are often used in clothing stores to secure expensive leather coats to the clothing rack. Locked showcases are used to display jewelry and costly electronic equipment. Magnetic tags are attached to merchandise, which will sound an alarm when removed from the store.

### **Accounting Records**

#### **DIGITAL JOURNALS AND LEDGERS.**

- Digital journals and master files are the basis for financial reporting and many internal decisions. Accountants should be skeptical about accepting, on face value, the accuracy of computer-produced hard-copy printouts of digital records.
- The reliability of hard-copy documents for auditing rests directly on the quality of the controls that protect them from unauthorized manipulation.
- The accountant should, therefore, be concerned about the quality of controls over the programs that update, manipulate, and produce reports from these files.

#### **FILE BACKUP.**

- The physical loss, destruction, or corruption of digital accounting records is a serious concern.
- The data processing department should perform separate file-backup procedures .
- Typically these are behind-the-scenes activities that may not appear on the system flowchart.
- The accountant should verify that such procedures are, in fact, performed for all subsidiary and general ledger files.
- Although backup requires significant time and computer resources, it is essential in preserving the integrity of accounting records.

### **Independent Verification**

- The consolidation of many accounting tasks under one computer program removes some of the traditional independent verification control from the system.

- *Independent verification is restored somewhat by performing batch control balancing after each run and by producing management reports and summaries for end users to review.*

## SECTION B: STRUCTURED QUESTIONS

[40 MARKS]

### Question 6

[15 marks]

A manager suspects that certain employees are ordering merchandise for themselves over the Internet without recording the purchase or receipt of the merchandise. When vendor's invoices arrive, one of the employees approves the invoices for payment. After the invoices are paid, the employee destroys the invoices and related vouchers. The manager has been advised it would be best to begin tracing from the cash disbursements to trace whether this is actually happening. Do you agree with this advice? Support your answer.

#### Support

- *The record of payment would be the only option for possibly uncovering this scheme.*
- *Since these fraudsters are not recording the receipt of merchandise and they are destroying invoices and vouchers*

### Question 7

[25 marks]

Ozongejama Engineering Corp (OEC) operates in five SADC countries. OEC faced a crucial decision: choosing network software that would maximize functionality, manageability, and end-user acceptance of the system. OEC developed and followed a four-step approach:

#### Step 1.

Develop evaluation criteria. OEC organised a committee that interviewed users and developed the following evaluation criteria:

- Ease of use
- Scope of vendor support
- Ease of network management and administration
- Cost, speed, and performance
- Ability to access other computing platforms
- Security and control
- Fault tolerance and recovery abilities
- Ability to connect workstations to the network
- Global naming services
- Upgrade and enhancement options
- Vendor stability

OEC organized the criteria into the following four categories and prioritized them. Criteria vital to short-term and long-term business goals were given a 5. "Wish list" criteria were weighted a 3. Inapplicable criteria were given a 1.

1. Business criteria: overall business, economic, and competitive issues
2. Operational criteria: tactical issues and operating characteristics
3. Organizational criteria: networks' impact on the information systems structure
4. Technical criteria: hardware, software, and communications issues

#### Step 2.

Define the operating environment. Several data-gathering techniques were used to collect information from which an information systems model was developed. The model revealed the need to share



accounting, sales, marketing, and engineering data at three organizational levels: district, division, and home office. District offices needed access to centralized financial information to handle payroll. OEC needed a distributed network that allowed users throughout the organization to access company data.

**Step 3.**

Identify operating alternatives. Using the criteria from step 1, committee members evaluated each package and then compared notes during a roundtable discussion.

**Step 4.**

Test the software. The highest-scoring products were tested, and the product that fit the organization's needs the best was selected.

- a. Discuss the committee's role in the selection process. [5]
- *An executive level committee to plan and oversee the information systems function.*
  - *It consists of high-level management, such as the controller and systems and user-department management.*
  - *The steering committee sets AIS policies; ensures top-management participation, guidance, and control; and facilitates the coordination and integration of systems activities.*
- b. What are the pros and cons of using a committee to make the selection? [5]
- c. What data-gathering techniques could WEC use to assess user needs and select a supplier? [5]
- *Interviews*
  - *Questionnaires*
  - *Observation*
  - *Systems Documentation*
- d. What is the benefit of analysing the operating environment before selecting the software? [5]
- *Helps in Achieving Objectives*
  - *Identification of Threats and opportunities*
  - *Forecasting the Future*
- e. Justify whether a purchase decision be made on the point scoring process alone? [5]
- *Evaluating the overall merits of vendor proposals by assigning a weight to each evaluation criterion based on its importance.*
  - *Benchmarking*
  - *Performance testing*
  - *requirements costing*

**End of question paper**




**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY  
Faculty of Computing and Informatics**

Department of Informatics

<b>QUALIFICATION : POSTGRADUATE CERTIFICATE IN INFORMATICS (INFORMATION SYSTEMS AUDIT)</b>	
<b>QUALIFICATION CODE:</b> 08PGCI	<b>LEVEL:</b> 8
<b>COURSE:</b> ACCOUNTING INFORMATION SYSTEMS	<b>COURSE CODE:</b> AIS822S
<b>DATE:</b> JANUARY 2020	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 Hours	<b>MARKS:</b> 100

<b>SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	Mr Munyaradzi Maravanyika
<b>MODERATOR:</b>	Ms Valerie Garises

<b>INSTRUCTIONS</b>
<ol style="list-style-type: none"><li>1. Answer ALL the questions.</li><li>2. Write clearly and neatly.</li><li>3. Number the answers clearly.</li><li>4. Do not use additional materials</li><li>5. Cross out any work which should not be marked.</li><li>6. No pencil work allowed except for diagrams where requested.</li></ol>

  
**THIS QUESTION PAPER CONSISTS OF 3 PAGES**  
(Excluding this front page)

Identify any weaknesses in internal controls within the purchase processes of Namib CC. and indicate the improvements you would suggest.

**SECTION B: STRUCTURED QUESTIONS**

**[40 MARKS]**

**Question 6**

**[15 marks]**

A manager suspects that certain employees are ordering merchandise for themselves over the Internet without recording the purchase or receipt of the merchandise. When vendor's invoices arrive, one of the employees approves the invoices for payment. After the invoices are paid, the employee destroys the invoices and related vouchers. The manager has been advised it would be best to begin tracing from the cash disbursements to trace whether this is actually happening. Do you agree with this advice? Support your answer.

**Question 7**

**[25 marks]**

Ozongejama Engineering Corp (OEC) operates in five SADC countries. OEC faced a crucial decision: choosing network software that would maximize functionality, manageability, and end-user acceptance of the system. OEC developed and followed a four-step approach:

**Step 1.**

Develop evaluation criteria. OEC organised a committee that interviewed users and developed the following evaluation criteria:

- Ease of use
- Scope of vendor support
- Ease of network management and administration
- Cost, speed, and performance
- Ability to access other computing platforms
- Security and control
- Fault tolerance and recovery abilities
- Ability to connect workstations to the network
- Global naming services
- Upgrade and enhancement options
- Vendor stability

OEC organized the criteria into the following four categories and prioritized them. Criteria vital to short-term and long-term business goals were given a 5. "Wish list" criteria were weighted a 3. Inapplicable criteria were given a 1.

1. Business criteria: overall business, economic, and competitive issues
2. Operational criteria: tactical issues and operating characteristics
3. Organizational criteria: networks' impact on the information systems structure
4. Technical criteria: hardware, software, and communications issues

**Step 2.**

Define the operating environment. Several data-gathering techniques were used to collect information from which an information systems model was developed. The model revealed the need to share accounting, sales, marketing, and engineering data at three organizational levels: district, division, and home office. District offices needed access to centralized financial information to handle payroll. OEC needed a distributed network that allowed users throughout the organization to access company data.

**Step 3.**

Identify operating alternatives. Using the criteria from step 1, committee members evaluated each package and then compared notes during a roundtable discussion.





**PAMIBIA UNIVERSITY**  
**OF SCIENCE AND TECHNOLOGY**  
**FACULTY OF COMPUTING AND INFORMATICS**

**DEPARTMENT OF INFORMATICS**

<b>QUALIFICATION : POSTGRADUATE CERTIFICATE IN INFORMATICS (INFORMATION SYSTEMS AUDIT)</b>	
<b>QUALIFICATION CODE:</b> 08PGCI	<b>LEVEL:</b> 8
<b>COURSE CODE:</b> AIS822S	<b>COURSE NAME:</b> ACCOUNTING INFORMATION SYSTEMS
<b>SESSION:</b> JANUARY 2020	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>SECOND OPPORTUNITY/SUPPLEMENTARY MEMORANDUM</b>	
<b>EXAMINER(S)</b>	MR MUNYARADZI MARAVANYIKA
<b>MODERATOR:</b>	MS VALERIE GARISES

<b>INSTRUCTIONS</b>
<ol style="list-style-type: none"><li>1. Please use the memorandum or sample solutions to guide your marking.</li><li>2. Use the marks allocated as a guide to mark</li><li>3. Reasonable, in depth and innovative correct solutions provided by the students should be allocated marks even if not provided in the memorandum.</li><li>4. Take note of the marks allocated to each question.</li></ol>

**PERMISSIBLE MATERIALS**

None

**THIS QUESTION PAPER CONSISTS OF 8 PAGES** (Including this front page)



*This technique is often applied to general ledger account numbers.*

### Question 3

[15 marks]

Discuss the concept of internal computer fraud and how internal computer fraud may be perpetrated within Namib CC. using input manipulation, program manipulation and output manipulation.

#### Solution

**Input manipulation** usually involves altering data that is input into the computer.

- For example, altering payroll timecards to be entered into a computerized payroll system is a type of input manipulation.
- Other examples of input manipulation would be creating false or fictitious data inputs, entering data without source documents, or altering payee addresses of vendors or employees.

**Program manipulation** occurs when a program is altered in some fashion to commit a fraud.

- Examples of program manipulation include the salami technique, Trojan horse programs, and trap door alterations.
- A fraudster may use the salami technique to alter a program to slice a small amount from several accounts and then credit those small amounts to the perpetrator's benefit.
- For example, a program that calculates interest earned can be altered to round down to the lower 10-cent amount; that small excess of interest earned can be deposited to the perpetrator's account. Although it would take many transactions of this type to be of much benefit, the nature of interest calculation is such that it occurs frequently on many accounts; therefore, the amount of the fraud benefit could build quickly.
- A Trojan horse program is a small, unauthorized program within a larger, legitimate program, used to manipulate the computer system to conduct a fraud.
- For example, the rogue program might cause a certain customer's account to be written off each time a batch of sales or customer payments are processed.
- A trap door alteration is a valid programming tool that is misused to commit fraud.
- As programmers write software applications, they may allow for unusual or unique ways to enter the program to test small portions, or modules, of the system.
- These entrances can be thought of as hidden entrances, or trap doors.
- Before the program is placed into regular service, the trap doors should be removed, but a programmer may leave a trap door in place in order to misuse it to commit fraud.

**Computer systems generate many different kinds of output**, including checks and reports.

- If a person alters the system's checks or reports to commit fraud, this is known as output manipulation.
- This kind of fraud is often successful simply because humans tend to trust the output of a computer and do not question its validity or accuracy as much as they might if the output were manually produced

### Question 4

[10 marks]

Explain why an enforced code of ethics may have more impact in deterring upper-level management fraud than the implementation of internal controls.

#### Solution

- A code of ethics is a set of documented guidelines for moral and ethical behaviour within the organization.
- It is management's responsibility to establish, enforce, and exemplify the principles of ethical conduct valued in the organization.
- Upper-level managers are above the level of internal controls;



- In a POS system, where both inventory and cash are at risk, supervision is particularly important. Customers have direct access to inventory in the POS system, and the crime of shoplifting is of great concern to management.
- Surveillance cameras and shop floor security personnel can reduce the risk.
- These techniques are also used to observe sales clerks handling cash receipts from customers. In addition, the cash register's internal tape is a form of supervision.
- The tape contains a record of all sales transactions processed at the register. Only the clerk's supervisor should have access to the tape, which is used at the end of the shift to balance the cash drawer.

#### **Access Control**

- In computerized systems, digital accounting records are vulnerable to unauthorized and undetected access.
- This may take the form of an attempt at fraud, an act of malice by a disgruntled employee, or an honest accident.
- Additional exposures exist in real-time systems, which often maintain accounting records entirely in digital form.
- Without physical source documents for backup, the destruction of computer files can leave a firm with inadequate accounting records.
- To preserve the integrity of accounting records, Sarbanes-Oxley legislation requires organization management to implement controls that restrict unauthorized access.
- Also at risk are the computer programs that make programmed decisions, manipulate accounting records, and permit access to assets.
- In the absence of proper access controls over programs, a firm can suffer devastating losses from fraud and errors. Thus, current laws require management to implement such controls.
- Because POS systems involve cash transactions, the organization must restrict access to cash assets.
- One method is to assign each sales clerk to a separate cash register for an entire shift. When the clerk leaves the register to take a break, the cash drawer should be locked to prevent unauthorized access.
- This can be accomplished with a physical lock and key or by password.
- At the end of the clerk's shift, he or she should remove the cash drawer and immediately deposit the funds in the cash room.
- When clerks need to share registers, responsibility for asset custody is split among them and accountability is reduced.
- Inventory in the POS system must also be protected from unauthorized access and theft. Both physical restraints and electronic devices are used to achieve this.
- For example, steel cables are often used in clothing stores to secure expensive leather coats to the clothing rack. Locked showcases are used to display jewelry and costly electronic equipment. Magnetic tags are attached to merchandise, which will sound an alarm when removed from the store.

#### **Accounting Records**

##### **DIGITAL JOURNALS AND LEDGERS.**

- Digital journals and master files are the basis for financial reporting and many internal decisions. Accountants should be skeptical about accepting, on face value, the accuracy of computer-produced hard-copy printouts of digital records.
- The reliability of hard-copy documents for auditing rests directly on the quality of the controls that protect them from unauthorized manipulation.
- The accountant should, therefore, be concerned about the quality of controls over the programs that update, manipulate, and produce reports from these files.



- Vendor stability

OEC organized the criteria into the following four categories and prioritized them. Criteria vital to short-term and long-term business goals were given a 5. "Wish list" criteria were weighted a 3. Inapplicable criteria were given a 1.

1. Business criteria: overall business, economic, and competitive issues
2. Operational criteria: tactical issues and operating characteristics
3. Organizational criteria: networks' impact on the information systems structure
4. Technical criteria: hardware, software, and communications issues

**Step 2.**

Define the operating environment. Several data-gathering techniques were used to collect information from which an information systems model was developed. The model revealed the need to share accounting, sales, marketing, and engineering data at three organizational levels: district, division, and home office. District offices needed access to centralized financial information to handle payroll. OEC needed a distributed network that allowed users throughout the organization to access company data.

**Step 3.**

Identify operating alternatives. Using the criteria from step 1, committee members evaluated each package and then compared notes during a roundtable discussion.

**Step 4.**

Test the software. The highest-scoring products were tested, and the product that fit the organization's needs the best was selected.

- a. Discuss the committee's role in the selection process. [5]
  - *An executive level committee to plan and oversee the information systems function.*
  - *It consists of high-level management, such as the controller and systems and user-department management.*
  - *The steering committee sets AIS policies; ensures top-management participation, guidance, and control; and facilitates the coordination and integration of systems activities.*
- b. What are the pros and cons of using a committee to make the selection? [5]
- c. What data-gathering techniques could WEC use to assess user needs and select a supplier? [5]
  - *Interviews*
  - *Questionnaires*
  - *Observation*
  - *Systems Documentation*
- d. What is the benefit of analysing the operating environment before selecting the software? [5]
  - *Helps in Achieving Objectives*
  - *Identification of Threats and opportunities*
  - *Forecasting the Future*
- e. Justify whether a purchase decision be made on the point scoring process alone? [5]
  - *Evaluating the overall merits of vendor proposals by assigning a weight to each evaluation criterion based on its importance.*
  - *Benchmarking*
  - *Performance testing*