higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

INTRODUCTION TO INFORMATION SYSTEMS
NQF LEVEL 2

(10041002)

12 November 2024 (Y-paper)
13:00–16:00

This question paper consists of 10 pages.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)
INTRODUCTION TO INFORMATION SYSTEMS
NQF LEVEL 2
TIME: 3 HOURS
MARKS: 200

INSTRUCTIONS AND INFORMATION

1. Answer all the questions.
2. Read all the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. Use only a black or blue pen.
5. Write neatly and legibly.

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SECTION A

QUESTION 1

1.1 Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (1.1.1–1.1.10) in the ANSWER BOOK.

1.1.1 The aim of management is to …

A create tasks for employees.
B use technology to complete tasks without employees.
C motivate employees to work effectively and efficiently.
D headhunt the ideal candidate for the job.

1.1.2 A basic need for information systems is to …

A capture and store data for an organisation.
B automate the recruitment process.
C facilitate the training of staff.
D make jobs redundant.

1.1.3 Information systems are used to …

A store data only.
B connect computers to a network.
C run software applications.
D transform data for decision making.

1.1.4 To protect your computer from viruses, you should …

A regularly delete files from your computer.
B open e-mail attachments without verifying the sender.
C open the infected file to check it.
D use a reputable anti-virus program.

1.1.5 Information technology has …

A increased the need for office space.
B helped employees to communicate less at work.
C made it harder for businesses to operate on a global scale.
D allowed automation to assist with repetitive processes.

1.1.6 Which ONE of the following is an electronic computing device?

A Smartphone
B Microwave oven
C LCD television
D Printer

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1.1.7 The … key is used to remove characters to the right of the cursor.

A Enter
B Esc
C Delete
D Tab

1.1.8 The most common keyboard layout is known as …

A Workman.
B AZERTY.
C QWERTY.
D Dvorak.

1.1.9 Backing up your work …

A helps protect your work from data threats.
B is not important if you print what is needed.
C takes too much time and effort.
D ensures that you can work on data when you are away from the office.

1.1.10 The computer's … is used to temporarily store data that would be too slow to read from the hard drive.

A secondary memory
B main memory
C electronically programmable read-only memory (ROM)
D ROM

(10 × 1) (10)

1.2 Complete the following sentences by choosing a word or words from the list below. Write only the answer next to the question number (1.2.1–1.2.10) in the ANSWER BOOK.

batch; knowledge; intellectual; headphones; updated; codec; hard disk; marketing; projector; data

1.2.1 The … department is a key element of a modern organisation.

1.2.2 Information system designers should consider how … will be stored on the system to make sure it is efficient.

1.2.3 New employees can gain access to training through a business's … base system.

1.2.4 Anti-virus software has to be kept … to protect against new threats.

1.2.5 Ideas and creations that belong to a person is called … property.

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1.2.6 When an organisation does its billing at the end of the month, it is known as … processing.

1.2.7 A … is used to compress files for easy transmission of data.

1.2.8 The … can become damaged and stop working if it is mishandled.

1.2.9 A receptionist can use … to listen to incoming digital calls.

1.2.10 A data … is an alternative to a monitor.

(10 × 1) (10)

1.3 Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (1.3.1–1.3.10) in the ANSWER BOOK.

1.3.1 Managers may make decisions based on how they feel at the time they make the decision.

1.3.2 In order for designers to develop a useful information system, they have to first determine what the user needs from the system.

1.3.3 The information system is used to collect, store and distribute information, resulting in better decision making.

1.3.4 User rights allow the organisation to limit access to information.

1.3.5 The most practical solution to remove a virus file is to format the hard drive.

1.3.6 A solid-state drive has fewer moving parts than a conventional hard disk drive.

1.3.7 Power users and end users are the same type of computer user.

1.3.8 A drum plotter uses a drum to rotate paper, allowing for an image to be printed.

1.3.9 Computerised robots can manufacture products with a high level of accuracy.

1.3.10 Integrated graphics cards can be purchased and added to improve graphics.

(10 × 1) (10)

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1.4 Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–J) next to the question number (1.4.1–1.4.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.4.1	A gut feeling used to assist with decision making	A	data
1.4.2	A design technique used to assess what the information system will be used for	B	input peripheral device
1.4.3	Raw facts and figures used as input for the information system	C	Trojan horse
1.4.4	Software that appears to be safe, but carries malicious code that is activated once downloaded	D	compact disc
1.4.5	The potential for loss or damage	E	risk
1.4.6	A device that sends information to the computer for processing	F	intuition
1.4.7	The part of the central processing unit (CPU) that controls the flow of data between different parts of the CPU	G	programmable ROM
1.4.8	A type of optical disc that has a capacity of 700 mb	H	mouse
1.4.9	A type of main memory that can be written to once with a special device	I	design factors
1.4.10	A pointing device used for direct entry input	J	control unit

(10 × 1) (10)

1.5 Give ONE term for each of the following abbreviations or acronyms by writing it next to the question number (1.5.1–1.5.10) in the ANSWER BOOK.

1.5.1 CEO

1.5.2 HRM

1.5.3 LAN

1.5.4 DBMS

1.5.5 UPS

1.5.6 GUI

1.5.7 VR

1.5.8 CPU

1.5.9 MFP

1.5.10 CRT

(10 × 1) (10)
[50]

TOTAL SECTION A: 50

SECTION B

QUESTION 2

2.1 You are the operations manager for a medium-sized chain store. Head office makes the strategic and tactical decisions regarding the store's future needs.

2.1.1 Describe TWO management functions that you would perform in your store. (2 × 2) (4)

2.1.2 Explain what type of decisions operational managers make. (2 × 2) (4)

2.1.3 Make up TWO examples of decisions you would make in your capacity. (2 × 2) (4)

2.2 Arrange the following decision-making steps into the correct order:

- Create solutions
- Choose the best solution
- Analyse the information
- Monitor the outcome
- Define the problem
- Gather information (2)

2.3 Discuss the importance of the step 'Monitor the outcome'. (2 × 2) (4)

2.4 Create TWO questions to ask employees when designing an information system. (2 × 2) (4)
[22]

QUESTION 3

3.1 Name and describe THREE elements of an information system. (3 × 2) (6)

3.2 Explain the relationship between data and information. (2 × 2) (4)

3.3 Propose TWO ways a knowledge base can be used to assist clients. (2 × 2) (4)

3.4 Define the term *information technology*. (2)

3.5 Discuss the impact of designing an information system where the information cannot be easily found. (2 × 2) (4)

3.6 List THREE design factors to consider when creating an information system. (3)
[23]

QUESTION 4

4.1 Give ONE example of an internal threat to an organisation. (2)

4.2 Draw and label a simple diagram showing a centralised information system. (6)

4.3 Discuss how computers can assist managers with product distribution. (3 × 2) (6)

4.4 As the team leader of the IT department, you are required to look at physical safety for the computers.

4.4.1 Explain the term *risk*. (4)

4.4.2 Devise a strategy to prevent unauthorised users from gaining physical access to the computers. (3 × 2) (6)

4.4.3 Develop a set of rules to prevent data theft from computer systems. (3 × 2) (6)
[30]

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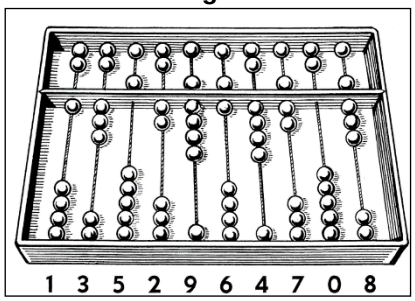
QUESTION 5

5.1 Study Image A below and answer the questions that follow.

Image A



[Source: *https://www.researchgate.net/*]

5.1.1 Name the device shown in Image A. (1)

5.1.2 Explain the use of the device shown in Image A. (2)

5.2 Peripheral devices fall into three categories, one of which is input devices.

Name ONE other category of peripheral devices. (2)

5.3 Explain when to use batch processing. (2)

5.4 Describe the typical end computer user. (4)

5.5 Tabulate the differences between *special-purpose computers* and *general-purpose computers*. (4)

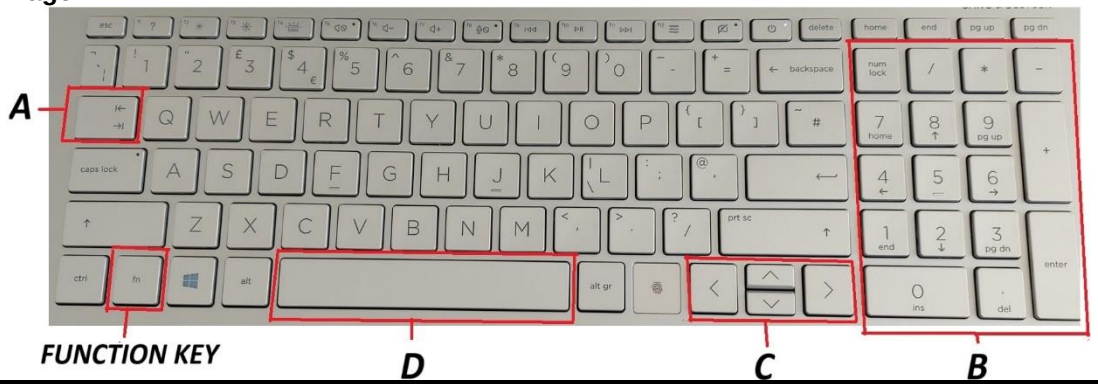
5.6 Name TWO differences between RAM and ROM. (8)

[23]

QUESTION 6

6.1 Study Image B below and answer the questions that follow.

Image B



6.1.1 Identify the key labelled A. (2)

6.1.2 Suggest when to use the key you have identified in QUESTION 6.1.1 above. (2)

6.1.3 Identify the group of keys labelled B. (2)

6.1.4 Identify the keys labelled C. (2)

6.1.5 Identify the key labelled D. (2)

6.2 Study the advertisement below and answer the questions that follow.

HP 250 G9 – 15.6' Celeron
+ free wireless mouse



PRICE: R5 249,99

Technical specifications:

- Memory: 4 GB MHz
- Memory type: DDR4
- Internal drive: 256 GB
- Storage type: Portable hard disk
- Product: HP 250 G9
- Product type: Notebook
- Display resolution: LED screen (1 080 p)
- Wireless mouse

[Source: Adapted from *Makor.co.za*]

6.2.1 List TWO components of a central processing unit. (4)

6.2.2 Suggest TWO uses for this notebook given its specifications. (4)

6.2.3 Recommend TWO memory upgrades to improve its performance. (4)

6.2.4 Explain how the wireless mouse connects to the laptop. (4)

6.2.5 Explain how the LED screen produces images. (6)

6.2.6 Explain TWO precautions to take when using a portable hard disk. (2 × 2) (4)

6.2.7 Recommend an output device that can be used with the notebook to present a slideshow to 50 people. (2)

6.3 Name TWO classifications of printers. (4)

6.4 State the importance of backing up your work off-site. (2)

6.5 Tabulate the characteristics of lossy and lossless data compression techniques. (4 × 2) (8)

[52]

TOTAL SECTION B: 150
GRAND TOTAL: 200

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