higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

INTRODUCTION TO INFORMATION SYSTEMS
NQF LEVEL 2

(10041002)

16 November 2023 (Y-paper)
13:00–16:00

This question paper consists of 10 pages.

072Q1N2316

Copyright reserved

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.

Copyright reserved

SECTION A

QUESTION 1

1.1 Various possible options are given as answers to the following questions. Choose the correct 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 When developing an information system, a developer should find out about an organisation's …

A staff numbers.
B basic information needs.
C financial status.
D geographic location.

1.1.2 Managers are able to make well-informed decisions based on … information.

A Relevant and accurate
B New and free
C Relevant and free
D Accurate and new

1.1.3 … allow an information system to connect employees on various levels and to transmit and receive information.

A Protocols
B Procedures
C Networks
D Sockets

1.1.4 Online trading, also known as …, has made a global marketplace possible.

A e-café
B e-selling
C e-filing
D e-commerce

1.1.5 South Africa can address piracy by …

A enforcing a mandatory reduction in the price of licensed material.
B creating illegal sites to share content.
C allowing pirated software to be sold legally.
D using copyright management software on digital copyright material.

Copyright reserved

1.1.6 … technologies such as a pedestrian counter at a shopping mall, are designed to blend into everyday life.

A Pervasive
B Elusive
C New
D Communication

1.1.7 Storage capacity measured from small to large is …

A kilobyte, gigabyte, terabyte and bit.
B yottabyte, kilobyte, megabyte and gigabyte.
C kilobyte, megabyte, gigabyte and terabyte.
D terabyte, gigabyte, megabyte and kilobyte.

1.1.8 The circular paths on a magnetic disc are called …

A clusters.
B paths.
C cylinders.
D tracks.

1.1.9 Data displayed on a screen is referred to as … output.

A hardcopy
B original
C prepared
D softcopy

1.1.10 … are generally used to back up pictures and home video.

A Mainframe servers
B Raid devices
C Compact discs
D Floppy discs

(10 × 1) (10)

1.2 Choose ONE word or term from the list below for each of the following descriptions. Write only the word or term next to the question number (1.2.1–1.2.10) in the ANSWER BOOK.

headphones; information; organisation; qwerty; batch; projector; lossless; intellectual; security; worm

1.2.1 A/An … is formed by people who work together to achieve the same goals.

1.2.2 Information system designers must consider the … of a system to ensure the integrity of data.

1.2.3 A … system can serve different employees at the same time by providing relevant data to each.

1.2.4 Malware, also known as …, can be transmitted by means of e-mails or weaknesses in software.

1.2.5 An idea belonging to the person who conceived it, is called … property.

1.2.6 … processing is when data is collected and processed at intervals.

1.2.7 In a conference, presenters can use a data … to display their content to a large audience.

1.2.8 The most commonly used keyboard in South Africa is known as the … keyboard.

1.2.9 When the … compression technique is used, none of the accuracy or quality is lost.

1.2.10 … are best used for playing music and ensuring privacy when making a call.

(10 × 1) (10)

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

1.3.1 Management is responsible for overseeing the running of a business.

1.3.2 Managers should monitor the outcome of a decision only if they are in doubt.

1.3.3 An information system is set up to provide relevant information for managers so that they make better decisions in running an organisation.

1.3.4 Antivirus software can slow down a computer because of the processing power it uses.

1.3.5 It is safe to download applications from any online source.

1.3.6 The Electronic Numerical Integrator and Calculator (ENIAC) was as large as a room.

1.3.7 In the past, machines were built with automated systems to make life easier for people.

Copyright reserved

1.3.8 Plotters are expensive and also take up a lot of space.

1.3.9 Video cannot be input to a computer; it has to be downloaded.

1.3.10 Flat panel displays have large tubes at the back that transmit light to their screens.

(10 × 1) (10)

1.4 Choose an item or a word 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	Set of skills enabling employees to carry out their daily tasks	A	spreadsheet
1.4.2	Database containing self-help information	B	microphone
1.4.3	Software program to manipulate numbers	C	eight
1.4.4	Process of ensuring that a company's future needs will be met	D	technical skills
1.4.5	People who purchase items on the internet	E	static ram
1.4.6	Type of RAM that retains data bits in a memory as long as power is supplied	F	customers
1.4.7	Device to input sound into a computer system	G	optical disc
1.4.8	Button to turn on a numeric keypad	H	knowledge base
1.4.9	Type of storage medium made of plastic	I	num lock
1.4.10	Number of bits in a byte	J	planning

(10 × 1) (10)

Copyright reserved

1.5 Give ONE word or words for each of the following acronyms. Write only the word or words next to the question number (1.5.1–1.5.10) in the ANSWER BOOK.

1.5.1 SWOT

1.5.2 CFO

1.5.3 IT

1.5.4 MIS

1.5.5 IDS

1.5.6 DRAM

1.5.7 DVD

1.5.8 CU

1.5.9 SSD

1.5.10 LCD

(10 × 1) (10)
[50]

TOTAL SECTION A: 50

SECTION B

QUESTION 2

2.1 Describe the purpose of an organisation. (2)

2.2 State how support functions help an organisation perform its core function. (2)

2.3 Name any ONE support function at a TVET college. (2)

2.4 You are a manager at a gas manufacturing plant. One of the burners has stopped working and may be damaged.

2.4.1 Propose decision-making steps you would take to understand and resolve the problem at the gas plant. (6 × 2) (12)

2.4.2 Determine which level of management would authorise the purchase of a new burner. (2)

2.4.3 Describe ONE factor that would assist a manager in making a decision to replace the damaged burner. (2)
[22]

Copyright reserved

QUESTION 3

3.1	List any FIVE elements that make up an information system.	(5 × 2)	(10)
3.2	Describe any THREE elements you have listed in QUESTION 3.1.	(3 × 2)	(6)
3.3	Explain how a knowledge base works.	(3 × 2)	(6)
3.4	Assume that you are typing into a knowledge base search bar. Write an example of a question you would ask in a word processing application knowledge base.		(1)
			[23]

QUESTION 4

4.1	Describe the term *risk* in relation to a business.		(2)
4.2	Predict the risk an organisation would face if their computer systems do not have physical access control mechanisms in place.	(2 × 2)	(4)
4.3	Propose THREE security measures employees should take to prevent the theft of data on their systems.	(3 × 2)	(6)
4.4	Briefly describe how an antivirus program detects and cleans viruses when a scan is run.	(3 × 2)	(6)
4.5	A centralised information system has a higher risk of complete data loss should something go wrong with a server. Explain why a decentralised information system is less likely to have complete data loss should something happen to a server.		(2)
4.6	Identify TWO examples of unintentional threats an organisation could face.	(2 × 2)	(4)
4.7	Assume that your business has created a software product. Your software has been illegally copied and distributed to the public. Describe the negative effect of software piracy on your business.	(2 × 2)	(4)
4.8	Explain what *intellectual property* means.		(2)
			[30]

Copyright reserved

QUESTION 5

5.1 Charles Babbage, also called the father of computing, invented the Difference Engine.

Explain what the *Difference Engine* was and what it was supposed to do. (2 × 2) (4)

5.2

IMAGE A	IMAGE B
	

[Source: https://www.images.google.com]

5.2.1 Identify the type of computer in Image A. (2)

5.2.2 Identify the type of computer in Image B. (2)

5.2.3 Compare the characteristics of the two computer types you have identified in QUESTIONS 5.2.1 and 5.2.2 above. (2 × 2 × 2) (8)

5.3 Computer processing is carried out by a Central Processing Unit. Many modern systems have more than one processing unit on a single integrated circuit chip.

Motivate the use of a multi-core processor instead of a single-core processor. (2 × 2) (4)

5.4 Name the THREE categories of peripheral devices. (3)

[23]

QUESTION 6

6.1 You are required to purchase a desktop computer for a small office. The receptionist will use it to not only make and receive calls by means of a voice-over internet protocol (VoIP) system, but also print invoices.

Compile a list of hardware components you would need to purchase to have a working computer system. Keep in mind the requirements that were mentioned above. (6 × 2) (12)

6.2 Analyse how data is entered into a system by using keyboard entry and direct-entry devices. (2 × 2) (4)

Copyright reserved

6.3 State if the following terminals are smart or dumb:

6.3.1 Credit card machine

6.3.2 ATM

6.3.3 Airline reservation terminal

(3 × 2) (6)

6.4 Name THREE advantages of using plotters in a business. (3 × 2) (6)

6.5 Study DIAGRAM A showing a laptop keyboard.



DIAGRAM A

6.5.1 Label the keys A, C, D and E. (8)

6.5.2 State the function of the keys labelled B. (2)

6.5.3 Name the key used to create a space between characters. (2)

6.5.4 State the key combination as a shortcut to save a document. (2)

6.6 Recommend an alternative to a CRT monitor. (1)

6.7 Suggest TWO ways to care for a portable hard disk drive. (2 × 2) (4)

6.8 Briefly outline the concept of a RAID drive. (2)

6.9 Name any THREE basic RAID levels. (3)

[52]

TOTAL SECTION B: 150
GRAND TOTAL: 200

Copyright reserved