higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE

COMPUTER PRINCIPLES N4

(6040034)

23 April 2021 (X-paper)
09:00–12:00

This question paper consists of 7 pages.

307Q1A2123

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
COMPUTER PRINCIPLES N4
TIME: 3 HOURS
MARKS: 100

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. Start each section on a new page.
5. Use only a black or blue pen.
6. Write neatly and legibly.

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QUESTION 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 (1.1–1.10) in the ANSWER BOOK.

1.1 … ensures there won't be a total loss of data in the event of a disaster.

A A disaster recovery team
B A back-up
C A firewall
D Security software

1.2 … is produced in the form of reels and is often used in mainframe computing.

A A flash drive
B A hard drive
C A magnetic tape
D A digital recorder

1.3 … is used to hold instructions for starting up the computer.

A RAM
B CD
C ROM
D A hard disk

1.4 A device that can be moved around and used on other devices is known as a … device.

A friendly
B portable
C dynamic
D connectivity

1.5 On PCs, a … enables the computer to start the operating system and to communicate with the various devices in the system.

A CPU
B stored program
C hard drive
D BIOS

1.6 A … printer forms each character as a group of small dots close together.

A daisy wheel
B plotter
C ink jet
D dot matrix

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1.7 A … is created when phosphorus is heated between two flat glass panels.

A Liquid Crystal Display
B Cathode Ray Tube
C Light Emitting Diode
D Digital Video Interface

1.8 A/An … refers to a device or process used to enter data into the system.

A input device
B peripheral device
C rendering process
D sampling process

1.9 A … virus replaces the program that is used to start the computer system with a modified, infected version of the start-up program.

A boot sector
B file
C Trojan horse
D macro

1.10 A … virus hides within or is designed to look like a legitimate program.

A boot sector
B file
C Trojan horse
D macro

(10 × 1) **[10]**

QUESTION 2

Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (2.1–2.5) in the ANSWER BOOK.

2.1 Computer viruses can be spread through opening any file on a disk.

2.2 A hard drive is made up of platters, heads and a spindle.

2.3 A stored program is a program which is packaged and stored for delivery to the consumer.

2.4 Utilities are examples of system development tools.

2.5 A mainframe server is equally as portable as an external hard drive.

(5 × 1) **[5]**

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QUESTION 3

Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–S) next to the question number (3.1–3.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
3.1	All the information in a computer flows through it	A	spyware
3.2	A portable computer	B	OCR
3.3	A type of software that recognises characters in a scanned image	C	printer
3.4	The type of temporary network that is, for example, formed when a user connects a smartphone to a laptop	D	gigabyte
3.5	An operating system feature designed to make the computer accessible for visually challenged users	E	template
3.6	A document containing the formatting and layout suggestions for a specific type of document such as a fax or an agenda	F	WAN
3.7	Malware that encodes a user's data so that it cannot be accessed until money is sent to the criminals operating the malware	G	on-screen keyboard
3.8	The brain of the computer	H	laptop
3.9	The process of transferring money via the Internet	I	CPU
3.10	An ancillary device used to put information into and get information out of the computer	J	smartphone
		K	sound
		L	bus
		M	EFT
		N	PAN
		O	peripheral
		P	sticky keys
		Q	screen reader
		R	ATM
		S	PDF

(10 × 1) **[10]**

QUESTION 4

4.1 During computer programming, the compiler will catch certain kinds of mistakes and write out an error message when it finds a mistake.

Name THREE main types of program errors. (3)

4.2 What type of errors is discovered by the compiler? (1)

4.3 If you omit a punctuation symbol from a program, an error is produced.

What type of error is this? (1)

4.4 You are writing a program that is supposed to compute the interest on a bank account on a daily basis. You mistakenly write a program that computes interest on an annual basis.

What type of program error is this? (1)

4.5 What does the acronym *BASIC* stand for? (2)

4.6 Loops within a BASIC program enable the execution of a small program to be repeated several times.

Give the TWO statements associated with BASIC loops. (2)
[10]

QUESTION 5

A new printer has been purchased for the computer centre.

Explain in detail what you will do to install the printer and to ensure that it functions correctly. **[10]**

QUESTION 6

6.1 Name THREE advantages of non-volatile computer memories. (3)

6.2 What is volatile computer memory? (2)

6.3 What is the purpose of RAM in a computer? (2)

6.4 The floppy disk was a means of storing data/programs in the 80's.

List SIX reasons why you would not recommend the use of a floppy disk as a means of storing data in the modern-day computer office. (6)
[13]

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QUESTION 7

7.1 Write brief notes on a super computer found in industry. (4)

7.2 Environmental factors need to be controlled in a computer room.

Name FIVE of these factors. (5)

7.3 Differentiate between serial and parallel communication that takes place in a computer. (6)

[15]

QUESTION 8

8.1 What is the purpose of *batch files* as executed by a modern-day computer? (2)

8.2 Loops within a BASIC program enable the execution of a small program.

Give TWO rules associated with nested loops in BASIC. (2)

8.3 What is meant by 'TRACE ON' when executing a BASIC program? (2)

8.4 Rapid application development (RAD) plays an important role in industry. Several programmers work as a team to deploy software in the quickest time.

Give THREE reasons for the development of rapid applications. (3)

8.5 Describe the following programming structure methods as applied to the computer industry:

8.5.1 Modular program structure

8.5.2 Monolithic program structure

(2 × 2) (4)

[13]

QUESTION 9

Mangaung TVET college requests you to write a BASIC program to sort a list of students alphabetically. The program must make use of a nested loop in the part that sorts the list alphabetical. A user-friendly output on printer paper is required.

Write a detailed BASIC program as requested above. **[14]**

TOTAL: 100

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