higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE

COMPUTER PRINCIPLES N4

(6040034)

13 August 2021 (X-paper)
09:00–12:00

This question paper consists of 7 pages.

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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 question on a new page.
5. Only use 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 (1.1–1.5) in the ANSWER BOOK.

1.1 An operating system that is used on large network systems:

A OS2
B MS-DOS
C Linux
D UNIX

1.2 Which operating system was the first system to make use of the GUI environment?

A Apple OS
B Windows
C Linux
D UNIX

1.3 Which operating system has the idea of 'free for all'?

A Apple OS
B Windows
C Linux
D UNIX

1.4 Which ONE of the following is an example of a first-generation language?

A Fortran
B Machine code
C Java #
D COBOL

1.5 The data type of the variable that can store only a true or a false value:

A Character
B Decimal
C Boolean
D Number

(5 × 1) **[5]**

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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 RAM stands for random access memory.

2.2 A hard disk is a stable data storage device consisting of platters and needles.

2.3 The word *codec* comes from coder decimal.

2.4 Soft copy refers to information displayed on the screen and not a printout.

2.5 To activate the numeric keypad, press the Alt button.

(5 × 1) **[5]**

QUESTION 3

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

COLUMN A		COLUMN B	
3.1	MS PowerPoint	A	accounting software
3.2	MS Excel, Quattro Pro	B	operating system
3.3	MS Outlook	C	utility program
3.4	MS Windows, MS-DOS	D	spreadsheet software
3.5	Plotter	E	word-processing software
3.6	Internet Explorer, Mozilla Firefox	F	e-mail program
3.7	Disk Cleanup, File Compression	G	database management software
3.8	Pastel Accounting, QuickBooks	H	web browser
3.9	MySQL, Access	I	presentation software
3.10	Word, WordPerfect	J	open-source software
		K	peripheral
		L	input device
		M	output device

(10 × 1) **[10]**

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QUESTION 4

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

What are THREE main types of program errors? (3)

4.2 What type of error(s) 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 Suppose you write a program that has to compute the interest on a bank account at a bank that computes interest on a daily basis, and 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

5.1 Explain the following terms:

5.1.1 Bit

5.1.2 Byte

5.1.3 Nibble

5.1.4 Computer

(4 × 2) (8)

5.2 When executing mathematical formulae, the priority of execution may be controlled by the programmer.

Explain how the programmer may control the execution of mathematical formulae. (4)

5.3 Why would you consider a compact disk as a permanent means for storing data? (2)

[14]

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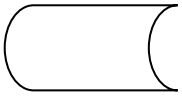
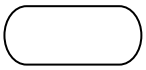
QUESTION 6

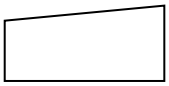
6.1 Standard flow chart symbols are used by the computer programmer in the initial phase of programming development.

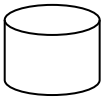
Name each of the following flow chart symbols:

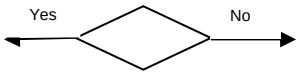
6.1.1 

6.1.2 

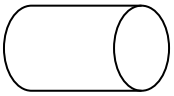
6.1.3 

6.1.4 

6.1.5 

6.1.6 

6.1.7 

6.1.8 

(8 × 1) (8)

6.2 List SEVEN steps to be followed when writing BASIC programs. (7)

6.3 When a computer program is executed, certain small programs called subroutines are executed, for example when exam marks are processed.

Write brief notes on the need for small subroutines. (4)

[19]

QUESTION 7

7.1 What does *CPU* stand for? (1)

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

7.3 What is the purpose of ROM in a computer? (2)

7.4 What is *non-volatile memory*? (2)

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

7.6 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)
[16]

QUESTION 8

8.1 List FIVE main categories of computers. (5)

8.2 Differentiate between *parallel communication* and *serial communication* that take place in a computer.

Name THREE differences. (6)
[11]

QUESTION 9

You are requested to write a BASIC program to determine the volume and capacity of a classroom. The program must be user-friendly with a well-structured output.

NOTE: The volume of the classroom is equal to the length × width × depth. **[10]**

TOTAL: 100

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