higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T410**(E)**(A15)T

NATIONAL CERTIFICATE

COMPUTER PRINCIPLES N4

(6040034)

15 April 2019 (X-Paper)
09:00–12:00

This question paper consists of 6 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. Sketches must be large, neat and fully labelled.
5. Write neatly and legibly.

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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 (1.1.1–1.1.6) in the ANSWER BOOK.

1.1.1 What type of software is responsible for managing your computer?

A Application
B System
C Browser
D Search engine

1.1.2 ALL information in a computer flows through the ...

A RAM.
B ROM.
C bus.
D ports.

1.1.3 The ROM in a computer …

A contains basic operating instructions for the computer to boot itself up.
B contains temporary information that is erased when the computer is turned off.
C solves mathematical equations.
D stores files that can be accessed the next time the computer is used.

1.1.4 Memory in a computer is …

A a permanent storage area for data.
B contained in the hard drive.
C contained in the CPU.
D a temporary storage area for data.

1.1.5 The TWO main categories of software are …

A applications and word processors.
B systems and applications.
C systems and operating systems.
D applications and spreadsheets.

1.1.6 A megabyte (MB) is equivalent to ...

A 1 thousand bytes (1, 024).
B 1 billion bytes (1, 073, 741, 824).
C 1 trillion bytes.
D 1 million bytes (1, 048, 576).

(6 × 1) (6)

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1.2 The printer and the screen are two output devices in a computer system.

Differentiate between these TWO devices in terms of the output of each. (4)

1.3 Write brief notes on a server computer used in industry. (4)

1.4 High temperatures can cause serious damage in a computer room.

Explain how the temperature could be controlled. (5)

1.5 The two files PROG_1.BAS and BASIC.exe are on a computer disk.

What is the difference between the TWO file extensions? (2)

1.6 What does the abbreviation GUI stand for? (2)

1.7 A file needs to be loaded from a computer disk to the memory. The time required to perform this task is known as access time.

Give TWO time units associated with this task. (2)
[25]

QUESTION 2

2.1 Differentiate between *serial* and *parallel* communication taking place in a computer. (6)

2.2 Give FOUR reasons why you would NOT recommend the floppy disk, used in the 80s, to store data in a modern computer office. (4)

2.3 Information is stored on a magnetic disk in the form of magnetic dots.

Explain how this information is retrieved and loaded in the memory of a computer. (5)

2.4 Rapid application development (RAD) plays an important role in industry and programmers work as a team to deploy software quickly.

Give FOUR reasons for the development of rapid applications. (4)

2.5 Write brief notes on the super computer used in industry. (4)

2.6 Give ONE example of representing very large and very small numbers in a BASIC program. (2)
[25]

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QUESTION 3

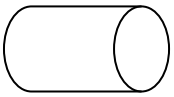
3.1 Discuss THREE bus architectures found in a microprocessor and refer to the type of communication allowed by each bus. (10)

3.2 Discuss the system development phases that each computer program follows during its life cycle. (15)
[25]

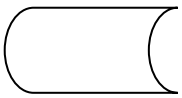
QUESTION 4

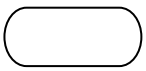
4.1 Programmers use standard flowchart symbols in the initial phase of programming development.

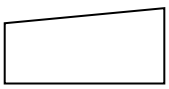
Identify each of the following flowchart symbols by writing the answer next to the question number in the ANSWER BOOK.

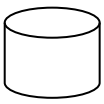
4.1.1 

4.1.2 

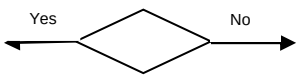
4.1.3 

4.1.4 

4.1.5 

4.1.6 

4.1.7

4.1.8 

(8 × 1) (8)

4.2 State TWO advantages of algorithm as a programming aid. (2)

4.3 Write a detailed BASIC program for the following problem:

Bloemfontein TVET college wants to tile ten lecture rooms. You as a computer programmer have to write a program to determine the area for tiling. The program must be able to determine the number of floor tiles needed to cover the floor area of each of the ten lecture rooms. The program must use a loop and must be user-friendly with a well-structured output.

NOTE: The area of one floor tile is 200 mm × 200 mm.

(15)
[25]

TOTAL: 100

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