higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

INTRODUCTION TO SYSTEM DEVELOPMENT

(First Paper)

NQF LEVEL 2

(10041022)

27 November 2019 (Y-Paper)
13:00–15:00

This question paper consists of 8 pages.

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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. Write neatly and legibly.

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SECTION A

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 An application that is owned by a particular person or company is called … software.

A open source
B commercial
C proprietary
D shareware

1.2 In which decade was the first operating system for the IBM 701 created?

A 1950s
B 1960s
C 1970s
D 1980s

1.3 Which numbering system does the average person use in everyday life?

A Binary
B Octal
C Decimal
D Hexadecimal

1.4 Which of the following languages is the closest to machine language?

A Assembly
B COBOL
C BASIC
D Pascal

1.5 Which of these programming languages is commonly used in business applications and is very easy to read?

A Assembly
B Pascal
C COBOL
D BASIC

1.6 A/An … variable is an example of a numeric variable.

A string
B Boolean
C integer
D character

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1.7 Classes, objects and methods are concepts of … programming languages.

A low-level
B procedural
C object-oriented
D traditional

1.8 The following code is needed for the click event of an Exit button on a graphical user interface:

A Close.Application
B Exit
C Me.Close()
D Exit()

1.9 … interfaces are often difficult to use because they require exact spelling, grammar and punctuation.

A Graphical user
B Command-line
C Menu-driven
D Icon-driven

1.10 Which ONE of the following is NOT a high-level programming language?

A Java
B Assembly
C COBOL
D Python

(10 × 1) **[10]**

QUESTION 2

Choose a description from COLUMN B that matches a term or word in COLUMN A. Write only the letter (A–J) next to the question number (2.1–2.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
2.1	Internet Explorer	A	for creating a database
2.2	Calculator, System Restore, Disk Defragmenter, Anti-virus	B	for sending/receiving e-mails
2.3	MS Outlook	C	to create a presentation
2.4	Server	D	utility programs
2.5	Visual Basic.net	E	to browse the world wide web
2.6	Android	F	command-line interface operating system
2.7	Microsoft PowerPoint	G	open-source operating system
2.8	Linux	H	the location where the web page is hosted
2.9	MS DOS	I	high-level programming language
2.10	MS Access	J	mobile operating system

(10 ×1) **[10]**

TOTAL SECTION A: 20

SECTION B

QUESTION 3

3.1 Name FIVE different types of software. (5)

3.2 Differentiate between *proprietary* and *open-source* software. (2)

3.3 What does the abbreviation GUI stand for? (1)

[8]

QUESTION 4

Ever since the invention of Charles Babbage's difference engine in 1822, programmers have instructed computers to perform a specific task using a programming language.

Name FIVE generations of programming languages and give an example of each.

(5 × 2) **[10]**

QUESTION 5

5.1 Define the following data types and give an example of each:

5.1.1 Characters

5.1.2 Strings

5.1.3 Boolean

(3 × 2) (6)

5.2 Give the data type of each the following:

5.2.1 400

5.2.2 666.23

5.2.3 'Manduna'

5.2.4 8

(4 × 1) (4)

[10]

QUESTION 6

6.1 Name FIVE steps that you must follow when solving a problem. (5)

6.2 List THREE commonly used types or classes of algorithms. (3)

6.3 Name and describe TWO ways in which you can convert data in Visual Basic. (4)

6.4 Name SEVEN rules that a programmer must adhere to when choosing the name of a variable. (7)

6.5 Determine the weekly wage of an employee if the hours he has worked for the week and the hourly rate are entered by the user.

Write the pseudo code steps that a programmer must follow when solving the above problem. (8)

6.6 List SIX fundamental naming conventions or rules for controls used in IDE programming language. (6)

6.7 Name FOUR types of errors that will appear when debugging a program. (4)

6.8 What is a *relational operator*? (1)

[38]

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QUESTION 7

7.1 Name SIX software documentation types. (6)

7.2 Quality assurance (QA) may use the results of other supporting processes, such as verification, validation, joint review, audits and problem resolution.

Identify THREE programming QA principles. (3)

7.3 What is the different between *batch* and *online* processing? (4)

7.4 Briefly explain the term *troubleshooting.* (1)

[14]

TOTAL SECTION B: 80
GRAND TOTAL: 100

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