higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

COMPUTER HARDWARE AND SOFTWARE
NQF LEVEL 3

(10041013)

26 February 2020 (X-paper)
09:00–12:00

This question paper consists of 8 pages.

043Q1S2026

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TIME: 3 HOURS
MARKS: 150

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. Write neatly and legibly.

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SECTION A

QUESTION 1

Choose an/a item/word from COLUMN B that matches a description in COLUMN A. Write only the letter (A–O) next to the question number (1.1–1.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.1	They are also referred to as palmtops, handheld computers or pocket PCs.	A	industry standards
1.2	Refers to a computer security mechanism used by operating systems for running untested software.	B	integration testing
1.3	Some of the ways to troubleshoot a slow laptop includes.	C	RAM cache
1.4	Cuts power to non-essential devices but maintains power to CPU and RAM.	D	Test plan
1.5	The generally accepted requirements for specifications and procedures followed by members of an industry.	E	PDA
1.6	… is a record of all events that happen while a program or operating system is running.	F	downtime
1.7	A period when a system is not available.	G	scanning for corrupt windows files
1.8	A level of software testing where individual software modules are combined and tested as a group.	H	sandbox
1.9	Is a type of software used to test web and FTP applications.	I	Locust or JMeter
1.10	The … defines the objectives of the test, risks involved, resources required and dependencies present.	J	stand-by mode
		K	log files
		L	internet terminal
		M	motherboard
		N	PDA
		O	Random Access Memory

(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 (2.1–2.10) in the ANSWER BOOK.

2.1 Midrange computers are also called minicomputers.

2.2 Instruction set architecture refers to the interface between the operating system and the hardware.

2.3 A service level agreement is a contract between a service provider and a user or a company.

2.4 It is better to tell the user that their repair work will be done quickly and then apologise later when it is not ready.

2.5 When planning a repair, it is not important to consider how many jobs are being done at the same time.

2.6 Chrome books are designed to be used with internet connectivity and most of its applications are located remotely on the cloud.

2.7 The hibernate power option deletes all data in the RAM without saving to the hard disk before entering power saving mode.

2.8 Two beeps are often associated with BIOS ROM failure.

2.9 Burn-in is a test in which a system is made to run for an extended period to detect problems.

2.10 A waybill is attached to goods in transit, specifying their nature, point of origin and destination.

(10 × 1) **[10]**

QUESTION 3

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 (3.1–3.10) in the ANSWER BOOK.

3.1 Details about the software the client wants installed on his or her computer.

A Software specifications
B Software installation plan
C CPU
D Motherboard

3.2 The latest and last version of Windows 10 is called …

A Windows 8.1
B Windows 10 version 1703
C End-to-end testing
D Windows 10 version 1809

3.3 A Windows system tool applet you can use to remove unnecessary files from your hard disk.

A Disk defragmentation
B Decimal
C Disk clean-up utility
D Address line

3.4 The process of exercising an integrated circuit at elevated voltage and temperature is called … testing.

A Cache
B feasibility
C wafer
D burn-in

3.5 Problems that may be the result of misunderstanding or a lack of training is called …

A hardware problems.
B software problems.
C user problems.
D network problems.

3.6 A term for high-speed, high-capacity internet and data connection is …

A broadband.
B analogue.
C channel.
D data bundle.

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3.7 Problems that the average computer user cannot solve.

A Operating system checklist
B Device driver
C Technical computer problems
D Random access memory

3.8 Fixed limits that control the way in which one needs to do something.

A Parameters
B Modem
C Microwave
D ADSL

3.9 The process of finding problems in a computer system is called …

A troubleshooting.
B implementing.
C pipelining.
D executing.

3.10 An … includes only those files that have been modified since the last backup.

A incremental backup
B restore
C full backup
D rework

(10 × 1) **[10]**

TOTAL SECTION A: 30

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SECTION B

QUESTION 4

4.1 An instruction set is a description of what a processor can do. When instruction sets specify what a processor can do, they also specify what that processor cannot do.

Describe at least TWO types of instructions that a processor performs. (2 × 2) (4)

4.2 Name EIGHT generic steps for disassembling a laptop computer. (8)
[12]

QUESTION 5

5.1 With the aid of diagrams, illustrate the TWO most common network configurations. Your diagrams must consist of FOUR nodes. (8)

5.2 List FIVE features of a motherboard and explain their functions. (5 × 2) (10)

5.3. Explain the use of the following resources when performing hardware installations.

5.3.1 Multi-meter

5.3.2 Compressed air

(2 × 1) (2)
[20]

QUESTION 6

6.1 Name FOUR basic steps of computer assembly. (4)

6.2 Write the acronym BAPCo in full. (1)
[5]

QUESTION 7

7.1 Define *software piracy.* (1)

7.2 Differentiate between the *MSI file* and *.EXE file.* (10)

7.3 Explain the meaning of root cause analysis. (10)
[21]

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QUESTION 8

8.1 Summarise the various steps involved when performing systems testing. (8)

8.2 Compare usability testing and user acceptance testing. (4)

[12]

QUESTION 9

9.1 Discuss FIVE precautions on how to use a printer. (10)

9.2 List and explain FIVE causes of computer problems. (10)

9.3 Provide FIVE preventative measures that can be taken to ensure that a computer environment is kept free of dust and dirt, heat, humidity, liquid and static electricity. (5)

[25]

QUESTION 10

10.1 Explain the importance of maintaining information logs. (2)

10.2 What are the benefits of referring to the troubleshooting section of a user manual when troubleshooting technical computer problems? (3)

10.3 Provide FIVE personal communication techniques that one can apply to avoid misunderstandings between you and the users who ask your assistance with their computer problems. (5)

10.4 Discuss component isolation as a troubleshooting strategy. (5)

[15]

QUESTION 11

11.1 Give FIVE most common symptoms of a processor that is about to fail. (5)

11.2 Explain how one would fix a sound or audio problem in a computer. (5)

[10]

TOTAL SECTION B: 120
GRAND TOTAL: 150

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