higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

COMPUTER PRINCIPLES N4

8 December 2023

This marking guideline consists of 4 pages.

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QUESTION 1

1.1 C
1.2 A
1.3 C
1.4 B
1.5 D
1.6 C
1.7 A
1.8 D
1.9 C
1.10 B

(10 × 1) **[10]**

QUESTION 2

2.1 False
2.2 True
2.3 True
2.4 True
2.5 True
2.6 False

(6 × 1) **[6]**

QUESTION 3

3.1
- ROM/Read only memory
- PROM/programmable read only memory
- UV-PROM/EPROM/erasable programmable read only memory (3 × 2) (6)

3.2 Sec,✓ min,✓ milliseconds,✓ nanoseconds,✓ hours,✓ etc. (5)

3.3 Magnetic storage or magnetic recording is the storage of data on a magnetised medium.✓ Magnetic storage uses different patterns of magnetisation in a magnetisable material to store data✓ and is a form of non-volatile memory.✓ The information is accessed using one or more read/write heads.✓ The read/write head is used to detect and modify the magnetisation of the material immediately under it.✓ (5)

[16]

QUESTION 4

IMPACT PRINTER	NON IMPACT PRINTER
• It prints characters or images by striking a print hammer or wheel against an inked ribbon.	• It prints characters and images without striking the paper.
• It prints slower.	• It prints faster.
• Printing quality is lower.	• Printing quality is higher.
• It normally uses continuous paper.	• It normally uses individual pages.
• It generates noise during printing.	• It does not generate noise during printing.
• It uses inked ribbons for printing.	• It uses toner or cartridges for printing.
• It is less expensive.	• It is more expensive.
• A dot matrix is an impact printer.	• A laser printer is a non-impact printer.
• Daisy wheel and Chain printer.	• Inkjet printer

(Any 10 × 1) **[10]**

QUESTION 5

- Open printer box and inspect content.
- Connect printer cables, switch printer on.
- Install printer drivers on computer.
- Insert paper and print test page.
- Evaluate printed page and fine tune settings if needed.
- If printer is connected to a network, ensure that the settings are correct and all clients can access the printer from their computers. (6 × 2) **[12]**

QUESTION 6

6.1
- NEXT without FOR
- FOR without NEXT
- Division by zero
- Overflow
- Undefined label or subroutine
- Debugging errors
- False assumptions
- Linkage errors
- Logical errors
- Operational errors
- Test data errors (Any 8 × 1) (8)

6.2
- Compiler – takes code of program and provide exe file.
- Interpreter – takes code and executes line by line. (2 × 2) (4)

[12]

QUESTION 7

- Address bus✓✓ − one direction only, carries address location of the instruction.✓✓
- Data bus✓✓ − bi-directional, allows for reading and writing of data in memory.✓✓
- Control bus✓✓ − bi-direction or one directional communication, carries the control signals for the correct operation.✓✓ (3 × 4) **[12]**

QUESTION 8

8.1 Local Area Network (LAN)

- Consist of a server plus clients.
- It connects network devices over a relatively short distance (same building).
- Requires network operating system (NOS) and passwords.

Metropolitan Area Network (MAN)

- Dedicated system
- A network spanning a physical area larger than a LAN but smaller than a WAN, such as a city.
- A MAN is typically owned and operated by a single entity such as a government body (municipality) or large corporation.

Wide Area Network (WAN)

- A WAN spans a large physical distance.
- A WAN is a geographically-dispersed collection of LANs.
- A network device called a router connects LANs to a WAN. (3 × 4) (12)

8.2 To transmit digital information via analogue systems such as telephone lines.

OR

To connect to the internet. (2)

[14]

QUESTION 9

9.1
```
10 REM QUESTION 9.1✓
20 INPUT "I, R"; I, R✓
30 V = I * R✓
40 PRINT "Voltage = "; V✓
50 END
```
(4)

9.2
```
10 REM QUESTION 9.2✓
20 INPUT "R1, R2"; R1, R2✓
30 RT = R1 + R2✓
40 PRINT "Resistance= "; RT✓
50 END
```
(4)

[8]

TOTAL: 100

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