higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

# MARKING GUIDELINE

## NATIONAL CERTIFICATE

## COMPUTER PRINCIPLES N4

**2 December 2022**

**This marking guideline consists of 5 pages.**

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## QUESTION 1

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

(10 × 1) **[10]**

## QUESTION 2

2.1 True
2.2 False
2.3 False
2.4 True
2.5 False

(5 × 2) **[10]**

## QUESTION 3

3.1 G
3.2 K
3.3 H
3.4 A
3.5 J
3.6 E
3.7 B
3.8 I
3.9 F
3.10 C

(10 × 1) **[10]**

## QUESTION 4

4.1 It is used during the execution of subroutines and interruptions to store register content, flag status and return addresses.

4.2
- Exception
- Normal interrupts

4.3 FOR … TO …, NEXT

4.4 10 PRINT 'SOFTWARE DEVELOPMENT'

4.5 Comments in a program that refresh the programmer's memory

(5 × 2) **[10]**

**QUESTION 5**

5.1 5.1.1 Video Graphic Array
5.1.2 Random Access Memory

(2 × 2) (4)

5.2
- CPU
- RAM

(2 × 2) (4)

5.3
- More data/programs can be loaded simultaneously into RAM
- No need for virtual memory
- Faster access to data

(Any 2 × 1) (2)

5.4
- SSD is faster
- More durable
- Uses less electricity
- No moving parts
- Less noise
- SSD becomes cheaper in sub 250 GB systems

(Any 4 × 1) (4)

5.5
- Cost saving/cheaper
- (Physical) Space – saving
- Less components/no cabling
- Uses less power (one component)

(Any 2 × 1) (2)

5.6 64 GB (1)

5.7
- Iris scanner
- Fingerprint scanner

(Any 1 × 1) (1)

5.8
- Via SD card in card reader
- Bluetooth
- USB cable
- Via cloud storage/service

(Any 2 × 1) (2)
**[20]**

**QUESTION 6**

6.1 A low-level programming language provides little or no abstraction from a computer's instruction set architecture - commands or functions in the language map closely to processor instructions. (2)

6.2
- Assembly language
- Machine code (2)

6.3
- Web layer
- Application/business logic layer
- Database access layer (3)

6.4 6.4.1
- It is characterised by one whole section.
- The program is being tested as a whole.

6.4.2
- It is characterised by independent sections.
- Each module is coded and tested separately.

(2 × 2) (4)
**[11]**

**QUESTION 7**

7.1
- A supercomputer has a high level of performance compared to a general-purpose computer.
- It is expensive
- and can do complicated calculations
- very fast. (4)

7.2
- Dust
- Static electricity
- Humidity
- Ventilation
- Eating
- Space (Any 5 × 1) (5)

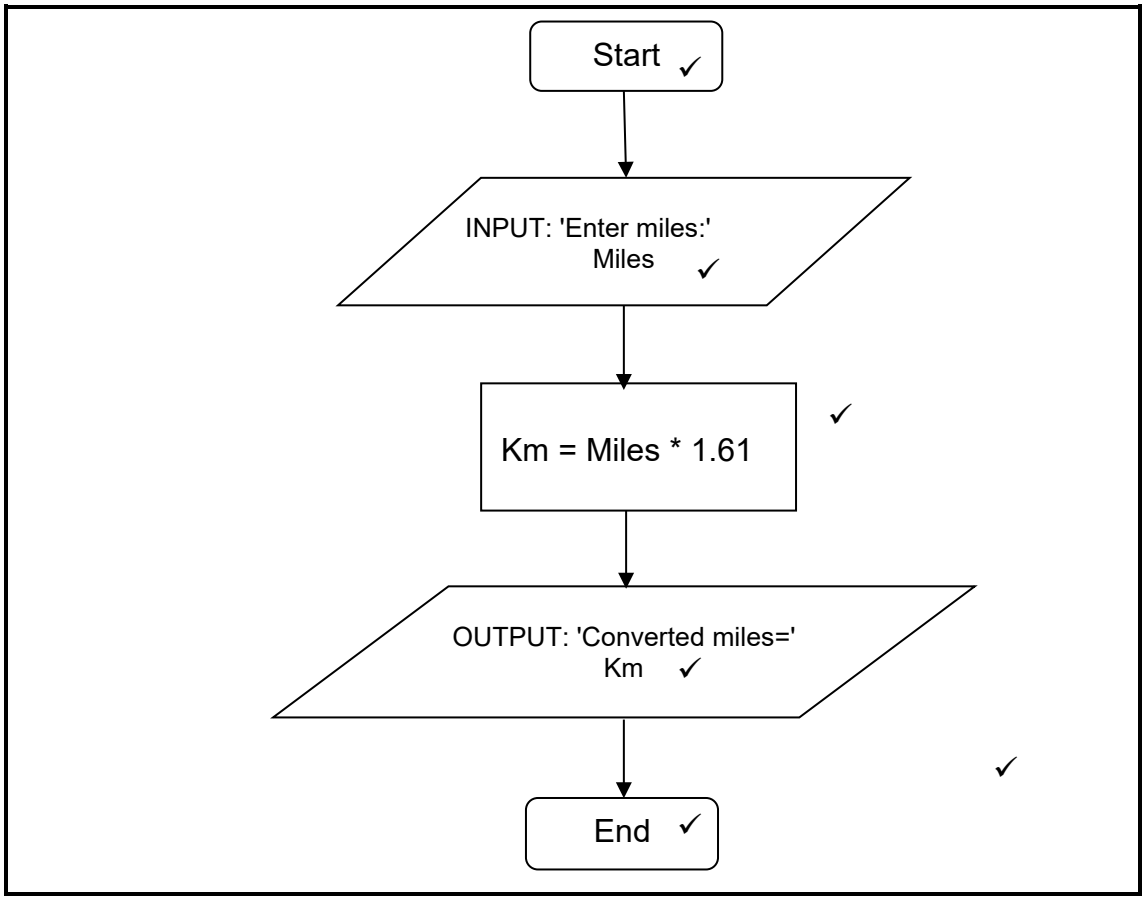
7.3 7.3.1 Serial
- Slow, single line for transmission
- Requires a start/stop
- Requires a parity bit

7.3.2 Parallel
- Fast
- Several lines for transmission
- Single pulse required to transmit data

(2 × 3) (6)
**[15]**

**QUESTION 8**

8.1




(1 mark per correct symbol used = 5 marks)
(1 mark for all the connecting lines) (6)

8.2

```
10 REM QUESTION 8.2✓
20 CLS✓
30 INPUT " Enter miles:"; Miles✓
40 Km = Miles * 1.61✓✓
50 CLS✓
60 PRINT '' Converted miles = "; Km✓
70 END✓
```

(8)
**[14]**

**TOTAL: 100**

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