



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

NOVEMBER 2016

**INFORMATION TECHNOLOGY P2
MEMORANDUM**

MARKS: 150

This memorandum consists of 8 pages.

SECTION A: MULTIPLE CHOICE QUESTIONS**QUESTION 1**

- | | | | | |
|-----|--------|------------------------|---|-----|
| 1.1 | 1.1.1 | B ✓ | Zero Insertion Force. | (1) |
| | 1.1.2 | C ✓ | Multithreading | (1) |
| | 1.1.3 | A ✓ | Low-level programming | (1) |
| | 1.1.4 | A ✓ | Rootkit | (1) |
| | 1.1.5 | B ✓ | PAN, HAN, LAN, WAN | (1) |
| | 1.1.6 | B ✓ | Modem | (1) |
| | 1.1.7 | B ✓ | robotics. | (1) |
| | 1.1.8 | C ✓ | Punctuality | (1) |
| | 1.1.9 | D ✓ | Can adapt to user needs and preferences | (1) |
| | 1.1.10 | A ✓ | Windows RT | (1) |
| 1.2 | 1.2.1 | Bus ✓ | | (1) |
| | 1.2.2 | Biometric Security ✓ | | (1) |
| | 1.2.3 | Protocol ✓ | | (1) |
| | 1.2.4 | Distributed database ✓ | | (1) |
| | 1.2.5 | Anomalies ✓ | | (1) |

TOTAL SECTION A: 15

SECTION B: SYSTEMS TECHNOLOGIES**QUESTION 2**

- 2.1 2.1.1 A computer design philosophy which incorporates a variety of separate components or modules. ✓ (1)
- 2.1.2 Any Two of: ✓✓
• *Upgrading* the computer easily
• *Repairs* are easier
• *Maintenance* of parts is easier (2)
- 2.2 2.2.1 Random Access Memory ✓ (1)
- 2.2.2 All instructions are loaded first in the RAM before execution. ✓ (1)
- 2.2.3 Any Three of ✓✓✓
• Volatile
• Fast
• Electronic
• Expensive (3)
- 2.2.4 DIMM Modules ✓ (1)
- 2.3 2.3.1 The *process* of *storing* and *accessing* frequently used *data* or *instructions*. ✓ (1)
- 2.3.2 Any Two of: ✓✓
• CPU
• Storage
• Communication (2)
- 2.3.3 Any Two of: ✓✓
• CPU
• Hard Disk
• Website (2)
- 2.4 2.4.1 Any Two of: ✓✓
• Manages hardware and software
• Manages memory space and tasks
• Provides a user interface (2)
- 2.4.2 Any TWO Advantages: ✓✓
• Often free
• Can add to code
• Often available for multiple platforms (2)
- 2.4.3 Any TWO Disadvantages: ✓✓
• Limited Support
• Not always fully debugged
• Not always fully tested (2)

TOTAL SECTION B: 20

SECTION C: COMMUNICATION AND NETWORK TECHNOLOGIES

QUESTION 3

- 3.1 3.1.1 A network is a collection of computers or other computing devices ✓
connected by some communication media ✓ to allow users to share
resources ✓ and to communicate. (3)
- 3.1.2 A method of connecting to an existing network wirelessly ✓ (1)
- 3.1.3 Advantages (any TWO) ✓✓
 - No physical wires
 - Cheaper
 - Mobility of computers
 Disadvantages (any TWO) ✓✓
 - Limited range
 - Varying speeds
 - May be hacked into (4)
- 3.2 3.2.1 Network Interface Cards:
Wi-Fi adapters provide connectivity to the local area **network** (LAN)
in the home or office. ✓ (1)
- 3.2.2 An **ADSL modem** converts the data ✓ for high speed data transfer ✓
over digital telephone networks using a normal telephone line ✓ and
has a permanent connection (3)
- 3.2.3 A **Wi-Fi hotspot** is an area, which can be a public place, ✓ where
people may be granted Wi-Fi from an access point to connect to the
internet. ✓ (2)
- 3.3 3.3.1 **Vlog** – a form of blog which uses video as a medium ✓
MicroBlog – refers to posting short entries via a
cellphone/smartphone ✓ (2)
- 3.3.2 **Vlog** – Twitter ✓
MicroBlog – Youtube ✓ (2)
- 3.4 3.4.1 They need to be compressed to allow transferring/sending them over
the internet easily, ✓ or to make the file smaller. (1)
- 3.4.2 Videos ✓ (accept images as well) (1)
- 3.4.3 Lossy Compression – compresses data by losing some of the data ✓
Lossless compression – compresses data without losing any data ✓ (2)
- 3.4.4 .jpg or jpeg ✓ (1)
- 3.5 3.5.1 Intranet is an organisation's private network ✓ and is an internet like
the Internet environment ✓ (2)
- 3.5.2 Extranet allows the clients to have access to the internet ✓ + clients
can browse products freely (1)

TOTAL SECTION C: 26

SECTION D: DATA AND INFORMATION MANAGEMENT**QUESTION 4**

- 4.1 4.1.1 A **database field** is a single fact or smallest unit of data. ✓ (2)
- 4.1.2 A **database record** is a collection of fields ✓ that include the particulars of a specific entity. ✓ (2)
- 4.1.3 A **database table** is set up in rows and columns ✓ where every column represents a field ✓ and a row represents a record. ✓ (3)
- 4.2 4.2.1 Desktop Database ✓ (1)
- 4.2.2 Any One of: ✓
 • MS Access
 • Base (1)
- 4.2.3 Server DBMS ✓ (1)
- 4.2.4 Any two of: ✓✓
 • Blackfish
 • Oracle
 • MySQL (1)
- 4.3 Any 4 ✓✓✓✓ + explanation ✓✓✓✓
 • Format Check – specific data type must entered
 • Range Check – check to see that the data falls within a certain range
 • Data type check – check to see that the right type of data is entered
 • Presence check – compulsory fields, or mandatory fields
 • Check digit – unique digits to identify personnel, or clients (8)
- 4.4 4.4.1 **Primary key** is a field that identifies each record with a unique value ✓ (1)
- 4.4.2
 • ProductID✓
 • OrderID✓ (2)
- 4.4.3
 • Product ID PK Table 2 links with Product ID FK in Table 2 – link together
 • Drawing the 1 to many arrows ✓✓
 • Correct Field Table 1 ✓
 • Correct Field table 2 ✓ (4)

TOTAL SECTION D: 26

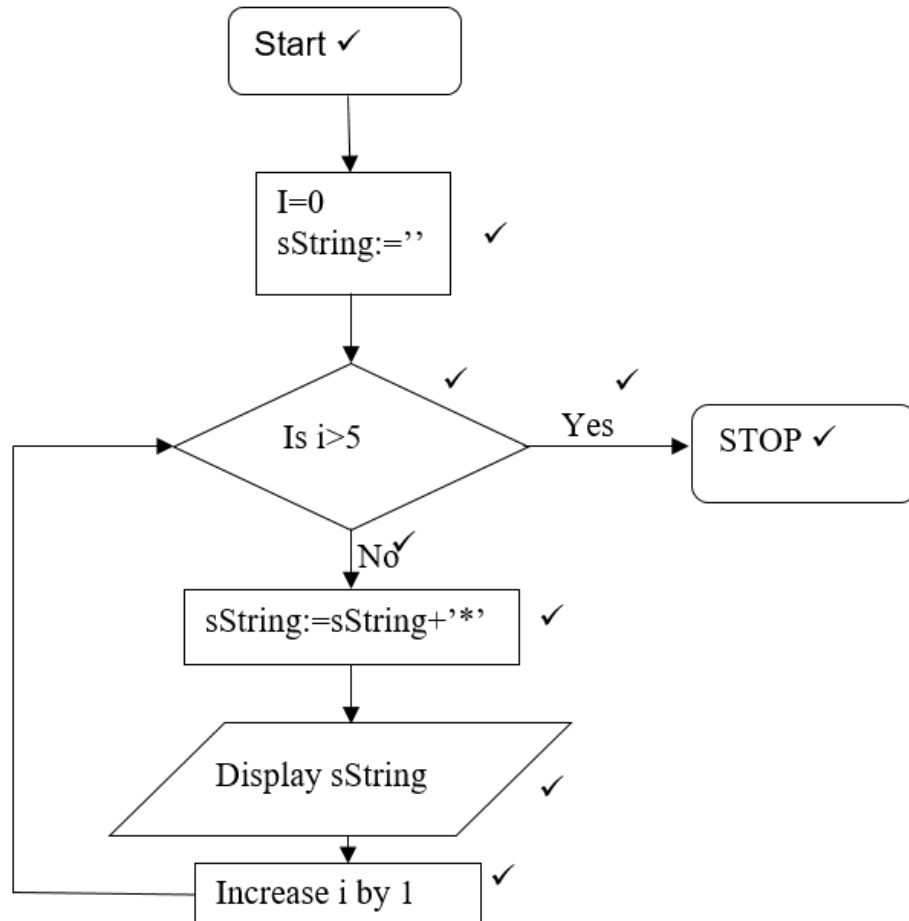
SECTION E: SOLUTION DEVELOPMENT

QUESTION 5

5.1 5.1.1 1 ✓

(1)

5.1.2



(9)

5.2 The *for loop* first checks the condition, ✓ then executes the code in the *do section*, ✓ - may not run at all
 The *while loop* first executes the code in the *do section*, ✓ then checks the condition, ✓ runs at least once

(4)

5.3 5.3.1 An **array** is data structure ✓ that holds a fixed number of values of a single type. ✓

(2)

5.3.2 Names ✓ and marks ✓

(2)

5.4 Syntax Errors ✓ Errors due to the syntax of the Language ✓
 Symantec Errors ✓ Errors due to improper use of programming statements ✓
 Logical Errors ✓ Errors due to the fact that the specifications are not followed ✓

(6)

5.5 Global Scope – Variable declared outside a function ✓
 Local Scope – Variable declared inside a function ✓

(2)

TOTAL SECTION E: 26

SECTION F: INTEGRATED SCENARIO

QUESTION 6

6.1 6.1.1 Any Four of: ✓✓✓✓

- To share data
- To share hardware
- To share software
- To communicate
- Centralisation of data
- Transfer of data

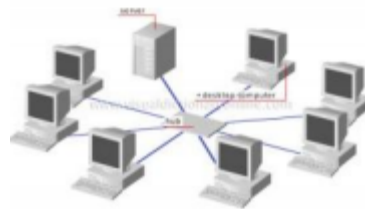
(4)

- 6.1.2
- Bus ✓
 - Star ✓
 - Ring ✓

(3)

6.1.3 One of: Labelled drawing of a bus, star or ring topology ✓✓✓

Star



Bus



Ring



(3)

- 6.1.4
- FTP ✓
 - SMTP ✓
 - Telnet ✓

(3)

- 6.2 6.2.1 Spam ✓ (1)
- 6.2.2 Yes ✓
Any One of: ✓
- Mark the email addresses as SPAM list
 - Use an Anti spam (2)
- 6.2.3 Any Two of: ✓✓✓✓
- On-screen keypad – keystrokes are easily captured, mouse clicks not.
 - Second, randomly changing password
 - Once-off passwords
 - Sms notifications
 - Any other reasonable suggestion (4)
- 6.2.4 Any Three of ✓✓✓
- Do not use public computers for banking
 - Use good passwords
 - Never give out personal details
 - Do not respond to emails requesting your details
 - Check bank statements
 - Ensure the bank site is secure (HTTPS)
 - Always access the bank by typing the full URL
 - Use anti-virus and firewall software
 - Do not leave the PC unattended (3)
- 6.3 6.3.1 Any explanations indicating:
- Access control ✓
 - Lock it up! ✓
 - Biometric devices ✓ (3)
- 6.3.2 Any explanation indicating:
- Strong passwords ✓
 - Rights and permissions ✓ (2)
- 6.4 6.4.1 Telecommuting is when employees can work from home instead of actually being present in an office ✓ (1)
- 6.4.2 Any Two of: ✓✓✓✓
- It removes real socialisation and physical interaction with people from the workplace
 - It may be expensive to setup the system
 - Bandwidth needs to be stable (4)
- 6.4.3 A **mobile office** refers to a situation where you can carry with you the portable tools essential for your business and the communication equipment that makes you reachable. ✓✓
- A **virtual office** refers to a situation where you can rent part of a shared office space that has a secretary, reception desk and meeting room. It also serves as a place where physical items can be delivered. All of this for a fraction of the cost of running a real office. ✓✓ (4)

TOTAL SECTION F: 37

GRAND TOTAL: 150