



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

SEPTEMBER 2014

**INFORMATION TECHNOLOGY P2
MEMORANDUM**

MARKS: 150

This memorandum consists of 10 pages.

SECTION A: MULTIPLE-CHOICE AND TRUE OR FALSE QUESTIONS**QUESTION 1: MULTIPLE-CHOICE QUESTIONS**

- 1.1 ✓ D Thunderbolt (1)
- 1.2 ✓ A Cache memory is a special type of high speed memory that is built into the motherboard. (1)
- 1.3 ✓ C NTFS (1)
- 1.4 ✓ B WiMax (1)
- 1.5 ✓ A 4G, 3G, EDGE (1)
- 1.6 ✓ B RFID (1)
- 1.7 ✓ B Vlog (1)
- 1.8 ✓ C runs one line of a program at a time. (1)
- 1.9 ✓ A FTP (1)
- 1.10 ✓ D 10 (1)

TRUE OR FALSE

- 1.11 False Administrators have full control over the computer system. (2)
- 1.12 False BitTorrent is a peer-to-peer protocol used for the transfer and sharing of large files across a network of computers such as the Internet. (2)
- 1.13 True (1)

TOTAL SECTION A: 15

SECTION B: SYSTEM TECHNOLOGIES**QUESTION 2**

- 2.1 ✓ Modular design refers to computers that are made up of many parts. (1)
- 2.2 2.2.1 ✓ Fetching instructions and data from the memory (RAM)
✓ Decoding the instructions
✓ Executing the instructions
✓ Transferring data back to the memory (4)
- 2.2.2 ✓ Core 2 Duo has 2 physical processors
✓ Quad Core has 4 physical processors on the CPU (2)
- 2.2.3 (a) ✓ Multitasking is when a computer runs or appears to run multiple programs at the same time.
✓ Example: Splitting CPU time between many programs like opening the Word processor, Web browser, VLC, etc.
(Or any other appropriate example) (2)
- (b) ✓ Multithreading is the ability of an operating system to allow applications to split themselves into multiple tasks/threads that can be run at the same time as if they were separate programs.
✓ Example: Word processor has threads like the user input; spell checking; auto save etc.
(Or any other appropriate example) (2)
- 2.3 2.3.1 ✓ Yes
✓ All data and instructions have to be loaded into the RAM before the CPU can work with them. (2)
- 2.3.2 ✓ Speed (1)
- 2.3.3 ✓ In one clock pulse, data is transferred double (twice).
✓ When the clock pulse starts and when it stops (2)
- 2.3.4 (a) ✓ Make use of virtual memory. (1)
- (b) ✓ Virtual memory is an area of hard drive space that the operating system keeps for itself to use as primary memory.
✓ When there is not enough RAM, the operating system swaps part of the programs/data to the hard drive (swapfile).
These parts that are swapped are called pages and must be fetched from the hard drive before they can be used. (2)
- 2.4 A strong password should include the following:
- Not using something easily identifiable such as a cellphone number/pets name/address etc.
 - Using a mixture of alphanumeric characters and special symbols.
 - Not using too small number of characters in the password.
 - Password not too short (at least 6 characters).
 - Using a mixture of capital and lowercase characters. (1)

TOTAL SECTION B: 20

SECTION C: COMMUNICATION TECHNOLOGIES AND NETWORKS**QUESTION 3**

- 3.1 3.1.1 **A network is**
 ✓ a collection of computers or computing devices
 ✓ that are connected by some sort of communication media
 ✓ to allow users to share hardware, software, data and information and to communicate. (3)

- 3.1.2 **Router**
 ✓ A hardware device that makes communication between networks possible over the Internet by directing data to its correct destination.
Switch
 ✓ A hardware device used to connect computers on a network so that communication can occur. (2)

- 3.1.3 ✓ADSL modem/router (1)

- 3.2 3.2.1 UTP (1)

3.2.2

	UTP	Fibre Optic
✓ Attenuation	✓ Susceptible to attenuation. Cable length cannot be longer than 100 m	Not a weakness
✓ Eaves-dropping	✓ Sensitive to eavesdropping although the twisting does help reduce the sensitivity.	Immune to eavesdropping
✓ Crosstalk	✓ Magnetic fields of two wires that are close to one another can interfere with transmission and can result in loss or corruption of data.	
✓ EMI	✓ Sensitive to EMI and power surges although the twisting does help reduce the sensitivity	Not affected
(Fibre optic is not weak in terms of above weaknesses. If learner is referring to Fibre optic, he/she can receive marks for naming the weaknesses. ONE mark for the weakness and ONE mark for the discussion.) (4)		

- 3.3 3.3.1 ✓ Make use of a WiFi Access point (1)

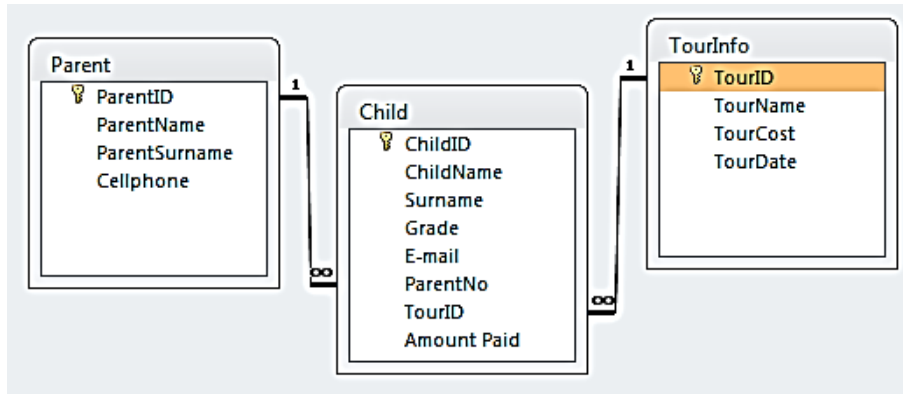
- 3.3.2 ✓ The data transmission over a WLAN is slower than over a cabled LAN. (1)

- 3.4 ✓ An IP address is a unique code
✓ consisting of 4 sets of numbers associated with a computer in a network. (2)
- 3.5 ✓ A VPN (Virtual Private network) is a way of allowing access to a network with the same privacy and security as a LAN, ✓but by using Internet connections to do so. (2)
- 3.6 3.6.1 ✓ The URL has to begin with https.
✓ There should be a padlock symbol somewhere in the browser's toolbar. (2)
- 3.6.2 ✓ SSL is an encryption protocol which encodes data that is sent over the Internet
✓ using private and public keys. (2)
- 3.6.3 **Phishing**
✓ You receive an e-mail from legitimate people or institutions such as your bank
✓ prompting you to urgently give out your personal information as if they are checking it.
(✓You can also be encouraged to click on a link to log onto your bank's website ✓and then be redirected to a replica of the website)
- Pharming**
✓ You do not receive an e-mail.
✓ The user's computer is infiltrated so that they are automatically redirected to another (fake) website even if they type in the correct URL for that website. (4)

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

- 4.1 ✓ Data is raw, unprocessed facts.
✓ Information is the result of the processing of data and should be useful and meaningful.
✓ Example the letters and numbers JFT 223 EC is only data, until it is processed or interpreted as a registration number, then it becomes information.
(Any suitable example) (3)
- 4.2 4.2.1 ✓ A Trojan Horse can be used to control the computer system remotely as a 'bot' or to create a 'backdoor' to allow unauthorised access to data on the computer.
✓ A Rootkit are designed to infiltrate the computer and gain the highest level of privileges to take control of the infected computer. This computer can then be used for all sorts of dangerous purposes such as illegally accessing data files, creating backdoors for other malware, etc. (2)
- 4.2.2 ✓ Use anti-malware products
✓ Do not open an attachment or download a file unless you are sure it is harmless and scan it before you open it.
✓ Never click on a link in an e-mail claiming to be from your bank or a stranger offering you money or claiming that you have won something.
✓ Keep the anti-malware products updated. (enable auto-update option)
✓ Make sure your firewall protection is. (Any 3) (3)
- 4.3 4.3.1 ✓ Create a database
✓ Edit the structure of a database
✓ Add, edit and delete data in the database
✓ Query or search the data in the database
✓ Process the data in the database to extract information. (Any 2) (2)
- 4.3.2 ✓ Desktop databases (1)
- 4.4 4.4.1 ✓ Normalisation refers to the process of organising a database into separate tables in such a way as to avoid the duplication of data ✓ and also update/deletion anomalies. (2)
- 4.4.2 ✓ AmountDue
✓ It can automatically be calculated when needed using the *Cost* and *Paid* fields. (2)

4.4.3



Parent, Child and TourInfo tables	✓✓✓
Primary Keys (ParentID/ChildID/TourID)	✓✓✓
Foreign Keys (ParentNo/TourID)	✓✓
Relationships	✓✓

(10 ÷ 2) (5)

TOTAL SECTION D: 20

SECTION E: SOLUTION DEVELOPMENT**QUESTION 5**

- 5.1 5.1.1 Any ONE of the following:
 ✓GetDOB; GetAmountOwe; GetAge (1)
- 5.1.2 ✓SetAmountPaid (1)
- 5.1.3 Any ONE of the following:
 ✓ToString; CalcAge; CalcAmountOwe (1)
- 5.2 ✓ To generate a string designed by the programmer which will
 ✓ usually display the object fields (attributes/class variables) (2)
- 5.3 ✓ The constructor has 3 parameters.
 ✓ Parameters are used to send and receive specific information to the method.
 ✓ The constructor will receive values from the mainform and use those values within the class. (3)
- 5.4 5.4.1 for k := 1 to iCount do ✓
 begin
 arrMoney[k] ✓ := arrMoney[k]*0.1 ✓✓;
 end;
 (Accept any valid coding or pseudo code) (4)
- 5.4.2 ✓✓130 (2)
- 5.5 5.5.1 ✓✓To assign rooms for the children if there are three rooms available. (2)
- 5.5.2 ✓Ulrich
 ✓Gareth
 ✓Tristan (3)
- 5.5.3 ✓Initialize / Initializing (1)
- 5.6 5.6.1 SELECT Childname ✓FROM TourClient✓ WHERE DaysOnTour >
 5✓ (3)
- 5.6.2 SELECT ChildName✓, FORMAT✓ (DaysOnTour * 1034.50✓, "0.00"
 ✓) AS Cost ✓FROM TourClient ✓ORDER BY ChildID✓
 Alternative: FORMAT(DaysOnTour * 1034.50, "#0.00")
 FORMAT(DaysOnTour * 1034.50, ".00")
 FORMAT(DaysOnTour * 1034.50, "Currency") (7)

TOTAL SECTION E: 30

SECTION F: INTEGRATED SCENARIO

QUESTION 6

6.1 6.1.1 An operating system is a
 ✓ collection of programs that
 ✓ manages and controls all activities that take place in a computer.
 ✓ It is the interface that ensures communication between the user and the programs on the computer. (3)

6.1.2 A – ✓ Windows/Windows 8
 B – ✓ iOS (2)

6.2 ✓ **The Screen**
 ✓ Set the device to automatically switch the screen off after a time when you are not using it.
 ✓ **Multitasking**
 ✓ Close apps that you are not using at the moment.
 ✓ **GPS**
 ✓ Close the GPS apps – the GPS drain the battery.
 ✓ **Bluetooth and WiFi**
 ✓ Both use separate transmitters in the device – turn them off.
 ✓ **Media**
 ✓ Playing music uses the built-in speaker and uses up power. Playing video uses the speaker and the screen.
 (Any TWO ways, with appropriate explanations) (4)

6.3 6.3.1 Device A (1)

6.3.2 1 TB (1)

6.4 6.4.1	<u>Dedicated graphics</u> ✓ Has its own independent source of graphics memory – using its own RAM. ✓ Leaving the RAM your system uses untouched.	<u>Integrated graphics</u> ✓ Does not use its own RAM. ✓ Utilises the system’s memory (uses available memory for graphics processing)	(4)
-----------	--	---	-----

6.4.2 ✓ No ✓ For working purposes, Integrated Graphics is sufficient.
OR
 ✓ Yes ✓ If he is doing his own graphics designing, then dedicated graphics will be necessary.
 (ONE of the above, according to the choice the learner made) (2)

6.5 ✓ B
 ✓ The iPad is ideal for travel as it is light and mobile. /The Internet is fast and easy to use anywhere. /Facetime video calling will help her with calls wherever she is. (2)

6.6 6.6.1 ✓ Dropbox/SkyDrive (1)

- 6.6.2 ✓ It provides (limited) free storage space online.
 ✓ It synchronises data files across all your devices
 ✓ You can access the files wherever you have Internet access.
 (Any 2) (2)
- 6.7 6.7.1 ✓ Skype (1)
- 6.7.2 ✓ A protocol is a set of rules/procedures
 ✓ that is used to determine how data is sent between two devices
 in a network. (2)
- 6.7.3 ✓ VoIP (1)
- 6.8 ✓ Retina Display is a brand name used by Apple for liquid crystal displays
 that have ✓ a high enough pixel density that the human eye is unable to
 notice pixilation at a typical viewing distance. (2)
- 6.9 6.9.1 ✓ Digital Divide (1)
- 6.9.2 ✓Lack of financial resources to access or purchase technology
 ✓Differences in educational levels
 ✓The age gap
 ✓Competition for financial resources
 ✓Disabilities
 (Any 3 or suitable answer) (3)
- 6.10 6.10.1 ✓ Mobile office (1)
- 6.10.2 ✓ A mobile office refers to a situation where you can carry with
 you the portable tools essential for your business and
 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.
 ✓ Karli is not in need of an office space (as they have an office),
 she needs to be able to carry with her portable tools and
 essentials to be reachable. (3)
- 6.11 ✓ Then she will be able to install any operating system on her 'computer'
 ✓ She can install (almost) any compatible software
 ✓ She can specify the size of the 'hard drive', CPU power and RAM the
 'computer' has. (Any 2) (2)
- 6.12 A smartwatch may include features such as a camera, accelerometer,
thermometer, altimeter, barometer, compass, chronograph, calculator, cell
phone, touch screen, GPS navigation, Map display, graphical display,
speaker, scheduler. It may communicate with a wireless microphone.
 ✓✓ (Any TWO appropriate features.) (2)

TOTAL SECTION F: 40
GRAND TOTAL: 150

- ✓ Dit verskat (beperte) gratis stoorpase aanlyn.
 ✓ Dit sinkroniseer dataleers oor al jou toestelle.
 ✓ Jy kan toegang tot die leers enige plek met Internetverbinding verkry.
 (2) (Enige 2)
- 6.7 6.7.1 ✓ Skype (1)
- 6.7.2 ✓ n Protokol is n stel reëls/prosedures
 ✓ wat gebruik word om te bepaal hoe data tussen twee toestelle in n netwerk versend word.
 (2)
- 6.7.3 ✓ VoIP (1)
- 6.8 ✓ *Retina Display* is n handelsnaam wat deur Apple gebruik word vir *liquid crystal displays* wat n hoe genoeg *pixel*digtheid het sodat dit vir die menslike oog onmoontlik is om die *pixelation* op n normale kykatstand raak te sien.
 (2)
- 6.9 6.9.1 ✓ *Digital Divide* (1)
- 6.9.2 ✓ Tekort aan finansiële hulpbronne om tegnologie te koop of toegang daartoe te verkry
 ✓ Verskille in geleëterheidsvlakke
 ✓ Die ouderdomsgaping
 ✓ Kompetisie vir finansiële hulpbronne
 ✓ Liggaamsgebroke
 (3) (Enige 3 toepaslike antwoorde)
- 6.10 6.10.1 ✓ Mobilele kantoor.
 (1)
- 6.10.2 ✓ n Mobilele kantoor verwys na n situasie waar die instrumente nodig vir die besigheid en kommunikasie-toestelle wat jou bereikbaar maak, saam met mens rondgedra word.
 ✓ n Virtuele kantoor verwys na n situasie waar jy dele van n gesamentlike kantoorruimte, met n sekretarisse, ontvangs en kamer vir vergaderings huur.
 ✓ Karil het nie kantoorruimte nodig nie (hulle het n kantoor). Sy het nodig om haar draagbare toestelle saam met haar te dra en benodig om bereik te kan word.
 (3)
- 6.11 ✓ Dan kan sy enige bedryfstelsel op haar 'rekenaar' installeer.
 ✓ Sy kan (byna) enige vatsoenbare programmatuur installeer.
 ✓ Sy kan die grootte van die 'hardeskyf', SVE-krag en RAM wat die 'rekenaar' het, spesifiseer.
 (2) (Enige 2)
- 6.12 n Slimhorlosie (*smartwatch*) kan eienskappe soos die volgende insluit: kamera, *accelerometer*, termometer, altimeter, barometer, kompas, chronograaf, sakrekenaar, selfoon, *touch screen*, GPS-navigasie, kaartvertoning, grafiese vertoning, luidspreker, dagboek. Dit kan met n koorlose mikrofoon kommunikeer.
 ✓ (Enige TWEE toepaslike eienskappe)
 (2)

TOTAAL AFDELING F: 40
 GROOTTOTAAL: 150

AFDELING F: GEÏNTEGREERDE SCENARIO

VRAAG 6

- 6.1 6.1.1 n Bedryfstelsel is n
 ✓ versameling van programme wat
 ✓ alle aktiwiteite wat in n rekenaar plaasvind beheer en bestuur.
 ✓ Dit is die koppelvlak wat kommunikasie tussen die gebruiker en
 die programme op die rekenaar bewerkstellig. (3)
- 6.1.2 A – ✓ Windows/Windows 8
 B – ✓ iOS (2)
- 6.2
 ✓ **Die skerm**
 ✓ Stel die toestel om outomates die skerm af te skakel na n ruk as dit nie
 gebruik word nie.
 ✓ **Multitaakverwerking**
 ✓ Maak apps wat jy nie op die oomblik gebruik nie toe.
 ✓ **GPS**
 ✓ Maak die GPS apps toe – die GPS dreineer die battery.
 ✓ **Bloutand en WiFi**
 ✓ Beide gebruik verskillende *transmitters* in die toestel – skakel hulle af.
 ✓ **Media**
 ✓ Om musiek te speel gebruik die ingeboude luidsprekers en gebruik krag.
 ✓ Om video's te speel gebruik die luidspreker en die skerm.
 (Enige TWFEE maniere, met gepaste verduidelikings) (4)
- 6.3 6.3.1 Toestel A (1)
- 6.3.2 1 TB (1)
- 6.4 6.4.1
- | | |
|-----------------------|--|
| ✓ Toegewyde grafika | ✓ Het sy eie onafhanklike
bron van grafiese gehoue
– gebruik sy eie RAM.
✓ Los die RAM wat jou
sisteem gebruik
onaangeraak. |
| Geïntegreerde grafika | ✓ Gebruik nie sy eie RAM nie.
✓ Gebruik die sisteem se gehoue
(gebruik beskikbare gehoue vir
grafiese verwerking) |
- (4)
- 6.4.2 ✓ Nee ✓ Vir werksdoelindes is geïntegreerde grafika voldoende.
OF
 ✓ Ja ✓ As hy sy eie grafiese ontwerp doen, dan het hy toegewyde
 grafika nodig.
 (EEN van bogenoemde, volgens die leerder se keuse) (2)
- 6.5 ✓ B
 ✓ Die iPad is ideaal vir rondreis omdat dit lig en mobiel is. /Die Internet is
 vinnig en maklik om enige plek te gebruik. / *Facetime* video-oproepe sal
 haar met oproepe help waar ookal sy is. (2)
- 6.6 6.6.1 ✓ *Dropbox/SkyDrive* (1)

AFDELING E: OPLOSSINGSONTWIKKELING

VRAAG 5

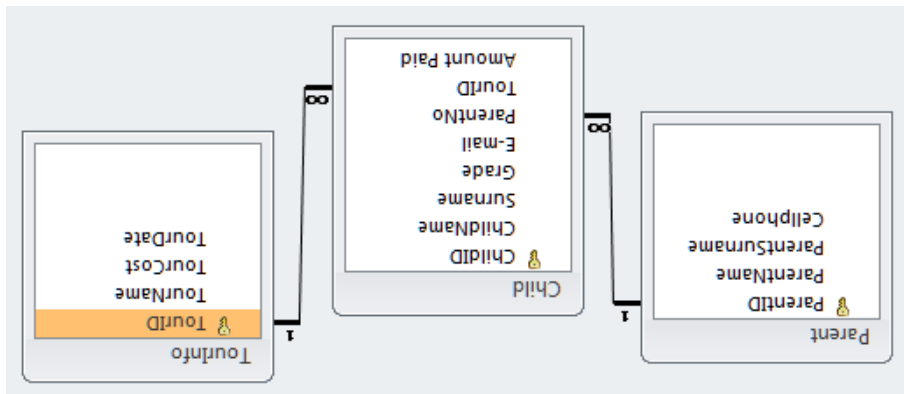
- 5.1 5.1.1 Enige EEN van die volgende: ✓ GetDOB; GetBedragVerskuldig; GetOuderdom (1)
- 5.1.2 ✓ SetBedragBetaal (1)
- 5.1.3 Enige EEN van die volgende: ✓ ToString; CalcOuderdom; CalcBedragVerskuldig (1)
- 5.2 ✓ Om 'n string deur die programmeerder te genereer wat gewoonlik die objek se velde (attributes/klas veranderlikes) vertoon. (2)
- 5.3 ✓ Die *constructor* het 3 parameters. ✓ Parameters word gebruik om spesifieke inligting na 'n metode te stuur of te ontvang. ✓ Die *constructor* sal waardes vanaf die hoofvorm ontvang en daardie waardes binne die klas gebruik. (3)
- 5.4 5.4.1 for k := 1 to iCount do ✓
begin
arrGeld[k] := arrGeld[k]*0.1 ✓ ✓ ;
end;
(Aanvaar enige geldige kode/pseudo kode) (4)
- 5.4.2 ✓ ✓ 130 (2)
- 5.5 5.5.1 ✓ ✓ Om kamers aan die leeders toe te ken indien daar drie kamers beskikbaar is. (2)
- 5.5.2 ✓ Ulrich
✓ Gareth
✓ Tristan (3)
- 5.5.3 ✓ *Initialize/initializing* (1)
- 5.6 5.6.1 SELECT LeerderNaam ✓ FROM Toerklent ✓ WHERE DaepToer > 5 ✓ (3)
- 5.6.2 SELECT LeerderNaam ✓, FORMAT ✓ (DaepToer * 1034.50 ✓, "0.00" ✓) AS Koste ✓ FROM Toerklent ✓ ORDER BY LeerderID ✓
Alternative: FORMAT(DaysOnTour * 1034.50, "#.00")
FORMAT(DaysOnTour * 1034.50, ".00")
FORMAT(DaysOnTour * 1034.50, "Currency") (7)

TOTAAL AFDELING E: 30

TOTAAL AFDELING D: 20

(5) (10 ÷ 2)

Parent, Child en TourInfo tabelle	✓✓✓
Primêre Sleutels (ParentID / ChildID / TourID)	✓✓✓
Vreemde sleutels (ParentNo/TourID)	✓✓
Verwantskappe	✓✓



4.4.3

- 4.1 ✓ Data is rou, onverwerkte feite.
 ✓ Inligting is die resultaat van die verwerking van data en is veronderstel om bruikbaar en betekenisvol te wees.
 ✓ Byvoorbeeld die letters en nommers JFT 223 EC is net data, totdat dit verwerk of geïnterpreteer word as 'n registrasienommer, waarna dit inligting word.
 (3) (Enige toepaslike voorbeeld)
- 4.2 4.2.1 ✓ ✓ 'n *Trojan Horse* kan gebruik word om jou rekenaar oor 'n afstand as 'n *bot* te beheer, of om dit vir ander mense moonlik te maak om sonder jou toestemming toegang tot jou rekenaar te verkry – deur 'n *backdoor* te skep.
 ✓ 'n *Rootkit* is ontwerp om 'n rekenaar te infiltrêer en dan beheer daarvan oor te neem deur administrateursregte te verkry.
 Hierdie rekenaar kan dan gebruik word vir allerhande gevaarlike doeleindes, onwettige toegang tot lêers, skep van *backdoors* vir ander *malware*, ens.
 (4)
- 4.2 4.2.2 ✓ Gebruik anti-*malware* produkte
 ✓ Moenie 'n aanhegsel oopmaak of 'n lêer aflaai indien jy nie seker is dit is skadeloos nie en skandeer dit voordat jy dit oopmaak.
 ✓ Moet nooit 'n skakel in 'n e-pos klik wat voorgee om jou bank te wees of 'n vreemde ding wat aangebied dat jy iets gewen het nie.
 ✓ Hou jou anti-*malware* produkte opgedateer (skakel die outomatiese opdatings opsie aan).
 ✓ Maak seker jou *firewall* beskerming is aan.
 (3) (Enige 3)
- 4.3 4.3.1 ✓ 'n Databasis te skep
 ✓ Die struktuur van die databasis te redigeer
 ✓ Data in die databasis by te voeg, te redigeer en uit te vee
 ✓ Navrae (*queries*) of-soektogte in die databasis te doen
 ✓ Die data in die databasis te verwerk om inligting te bekom.
 (2) (Enige 2)
- 4.3.2 ✓ Desktop-databasisse
 (1)
- 4.4 4.4.1 ✓ Normalisering verwy's na die proses om 'n databasis op so 'n wyse in verskillende tabelle te organiseer om duplisering van data te voorkom ✓ asook opdatering/skrap-onreëlmatighede.
 (2)
- 4.4.2 ✓ AmountDue
 ✓ Dit kan outomaties bereken word wanneer dit nodig is deur die *Cost* en *Paid*-velde te gebruik.
 (2)

TOTAAL AFDELING C: 25

- 3.4 ✓ 'n IP-adres is 'n unieke kode
 ✓ wat bestaan uit 4 stelling nommers wat geassosieer word met 'n rekenaar in 'n netwerk.
 (2)
- 3.5 ✓ 'n VPN (Virtuele Privaatnetwerk) is 'n manier om toegang tot 'n netwerk met dieselfde privaatheid en sekuriteit as wat 'n LAN bied te verkry,
 ✓ maar dit geskied deur die gebruik van Internetkonneksies.
 (2)
- 3.6 3.6.1 ✓ Die URL moet met https begin.
 ✓ Daar moet 'n slot-simbool iewers in die deurlaaiër se *toolbar* wees.
 (2)
- 3.6.2 ✓ SSL is 'n enkripsie-protokol wat data wat oor die Internet gestuur word enkodeer.
 ✓ deur gebruik te maak van private en publieke sleutels.
 (2)
- 3.6.3 **Phishing**
 ✓ Jy ontvang 'n e-pos vanaf geloofwaardige mense of instansies soos jou bank
 ✓ wat jou aanmoedig om dringend jou persoonlike inligting weer te gee asof hulle dit toets.
 ✓ Jy kan ook aangemoedig word om op 'n skakel te klik om in jou bank se webtuiste in te skakel ✓ en dan word jy na 'n replika van die webtuiste gestuur.)
Phishing
 ✓ Jy ontvang nie 'n e-pos nie.
 ✓ Die gebruiker se rekenaar word geïnfiltreer sodat hulle outomates na ander (vals) webtuistes gestuur word, al tik jy die regte URL vir die webtuiste in.
 (4)

AFDELING C: KOMMUNIKASIE-TEGNOLOGIE EN NETWERK-TEGNOLOGIE

VRAAG 3

- 3.1 3.1.1 **'n Network is**
 ✓ 'n versameling rekenars of rekenaartoestelle
 ✓ wat deur middel van een of ander kommunikasie-medium verbind is
 ✓ om gebruikers toe te laat om apparatuur, programmatuur en inligting te deel.
 (3)
- 3.1.2 **Roeteerder**
 ✓ 'n Apparaatuurstoel wat kommunikasie tussen netwerke oor die Internet moontlik maak deur data na die korrekte bestemming te herlei.
Switch
 ✓ 'n Apparaatuurstoel wat gebruik word om rekenars in 'n sentrale plek in 'n netwerk te konnekteer sodat kommunikasie kan plaasvind.
 (2)
- 3.1.3 ✓ADSL modem/roeteerder
 (1)
- 3.2 3.2.1 UTP
 (1)
- 3.2.2
- | | | |
|---------------------------------|--|-----------------------|
| ✓Seinver-swakking (Attenuation) | ✓Vatbaar vir seinverswakking. Kabellengte kan nie langer as 100 m wees nie. | Nie 'n swakhed |
| ✓Aflustering (Faves-dropping) | ✓Sensitief vir aflustering, alhoewel die gedraaide kables help om sensitiwiteit te verminder. | Immun tot aflustering |
| ✓Gekruiste lyne (Crossstalk) | ✓Magnetiese velde of twee kables wat naby aan mekaar is kan met die transmissie inmeng, wat kan lei tot die verloor of korrupsie van data. | |
| ✓EMI | ✓Sensitief vir EMI en kragonderbrekings, alhoewel die gedraaide kables sensitiwiteit verminder. | Nie geaffekteer |
- (Optiese vesel is nie swakker in terme van bogenoemde swakhede nie. Indien leerder na optiese vesel verwys, kan hy/sy punte ontvang vir die naam van die swakhed.
 EEN punt vir die swakhed en EEN punt vir die verduideliking.)
 (4)
- 3.3 3.3.1 ✓ Gebruik 'n WiFi-toegangspunt (*Access point*)
 (1)
- 3.3.2 ✓ Die datatransmissie oor 'n WLAN is stadiger as oor 'n bekabelde LAN.
 (1)

AFDELING B: STELSELTEKNOLOGIES

VRAAG 2

2.1 ✓ Moduliëre ontwerp verwys na rekenaars wat uit afsonderlike komponente bestaan. (1)

2.2 2.2.1 ✓ Haal data en instruksies vanaf die geheue (RAM) Dekodeer die instruksies
 ✓ Voer die instruksies uit
 ✓ Stuur data terug na die geheue (4)

2.2.2 ✓ Core 2 Duo het 2 fisiese verwerkers
 ✓ Quad Core het 4 fisiese verwerkers op die SVE (2)

2.2.3 (a) ✓ Multitaakverwerking is wanneer 'n rekenaar veelvuldige programme skynbaar tegelyk uitvoer.
 ✓ Voorbeeld: Die verdeling van die SVE se tyd tussen erskillende programme soos die oopmaak van die Woordverwerker, Webblaaier, VLC, ens.
 (Of enige ander gepaste voorbeeld) (2)

(b) ✓ Multidraadverwerking is die vermoë van 'n bedryfstelsel om dit vir programme moontlik te maak om hulself in 'n klomp take (of *threads*) te verdeel sodat daardie take tegelyk uitgevoer kan word asof hulle verskillende programme is.
 ✓ Voorbeeld: Woordverwerking het take (*threads*) soos die gebruikere se toevoer, speltoets, outomatiese stoor, ens.
 (Of enige ander gepaste voorbeeld) (2)

2.3 2.3.1 ✓ Ja (2)

✓ Alle data en instruksies moet in die RAM gelaai wees voordat die SVE daarmee kan werk. (2)

2.3.2 ✓ Spoed (1)

2.3.3 ✓ In een klokpuis word data dubbel (twee maal) oorgedra.
 ✓ Wanneer die klokpuis begin en wanneer dit stop. (2)

2.3.4 (a) ✓ Maak gebruik van virtuele geheue. (1)

(b) ✓ Virtuele geheue is hardeskyfspasie wat die bedryfstelsel vir homself hou om as primêre geheue te gebruik.
 ✓ Wanneer daar nie genoeg RAM is nie, ruil die bedryfstelsel dele van die programme/data na die hardeskyf (*swapfile*).
 Hierdie dele wat geruil word, word bladsye genoem en moet vanaf die hardeskyf gehaal word voordat hulle gebruik kan word. (2)

2.4 'n Sterk wagwoord moet die volgende insluit:

- Deur nie gebruik te maak van iets wat maklik identifiseerbaar is nie soos 'n selfoonnummer/troeteldiernaam/adres, ens.
- Gebruik 'n mengsel van alfanumeriese karakters en spesiale simbole.
- Deur nie te min karakters in die wagwoord in te sluit nie.
- Wagwoord nie te kort nie (ten minste 6 karakters).
- Gebruik 'n mengsel van hoofletters en gewone letters. (1)

TOTAAL AFDELING B: 20

AFDELING A: MEERVOUDIGEKEUSE-VRAE EN WAAR OF ONWAAR VRAE

VRAAG 1: MEERVOUDIGEKEUSE-VRAE

1.1 ✓ D *Thunderbolt* (1)

1.2 ✓ A Kasgheue is 'n spesiale tipe hoëspoedgheue wat op die moederbord ingebou is. (1)

1.3 ✓ C NTFS (1)

1.4 ✓ B *WiMax* (1)

1.5 ✓ A 4G, 3G, EDGE (1)

1.6 ✓ B RFID (1)

1.7 ✓ B Vlog (1)

1.8 ✓ C voer een lyn van 'n program op 'n slag uit. (1)

1.9 ✓ A FTP (1)

1.10 ✓ D 10 (1)

WAAR OF ONWAAR

1.11 Onwaar Administrateurs het volle beheer oor die rekenaarstelsel. (2)

1.12 Onwaar BitTorrent is 'n eweknie (*peer-to-peer*)-protokol wat vir die oordrag en deel van groot lêers oor 'n netwerk van rekenaars, soos die Internet, gebruik word. (2)

1.13 Waar (1)

TOTAAL AFDELING A: 15

Hierdie memorandum bestaan uit 10 bladsye.

PUNTE: 150

**INLIGTINGSTEGNOLOGIE V2
MEMORANDUM**

SEPTEMBER 2014

GRAAD 12

**NASIONALE
SENIOR SERTIFIKAT**