



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

NOVEMBER 2014

INFORMATION TECHNOLOGY P2

MARKS: 150

TIME: 3 hours



This question paper consists of 16 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FIVE questions.
2. Answer ALL the questions.
3. Read ALL the questions carefully.
4. Number the answers correctly according to the numbering system used in this question paper.
5. Write neatly and legibly.

SECTION A: MULTIPLE-CHOICE QUESTIONS AND MATCHING THE COLUMNS**QUESTION 1**

Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (1.1–1.10) in the ANSWER BOOK, for example 1.21 D.

- 1.1 Which is NOT a characteristic of RAM?
- A Non-volatile
 - B Limited
 - C Fast
 - D Electronic (1)
- 1.2 Which ONE of the following does NOT make use of caching?
- A CPU
 - B Storage
 - C Typing
 - D Web pages (1)
- 1.3 Unlike a bus, a ... connection is dedicated.
- A thunderbolt
 - B CPU
 - C taxi
 - D point-to-point (1)
- 1.4 The hardware component that hosts the start-up process.
- A BIOS
 - B CPU
 - C RAM
 - D ROM chip on the motherboard. (1)
- 1.5 ... is an example of a compiled language.
- A Java
 - B Delphi
 - C Scratch
 - D Python (1)

- 1.6 A/An ... is a set of rules which allow for communication and data transfer across a network or the Internet.
- A algorithm
 - B protocol
 - C law
 - D topology
- (1)
- 1.7 Spyware ...
- A directs you to websites you do not intend going to.
 - B is a program disguised with useful features.
 - C is a collection of programs that are designed to infiltrate a computer to gain the highest level of privileges.
 - D are detective games like Cluedo.
- (1)
- 1.8 Which ONE of the following is NOT a DBMS software package?
- A Blackfish
 - B Octopus
 - C Base
 - D Oracle
- (1)
- 1.9 Which ONE of the following represents the order of wireless range/ bandwidth from highest to lowest?
- A WiFi; Bluetooth; WiMAX
 - B Bluetooth; WiFi; WiMAX
 - C WiMAX; Bluetooth; WiFi
 - D WiMAX; WiFi; Bluetooth
- (1)
- 1.10 Which one is not related to 'the global village'?
- A Telecommuting
 - B Home office
 - C Social office
 - D Virtual office
- (1)

Match the COLUMN A with the correct answer in COLUMN B. Write down only the question number (1.11–1.20) and the matching letter (A–L) in COLUMN B in your ANSWER BOOK, for example 1.21 M.

COLUMN A		COLUMN B	
1.11	Firewire	A	Vein
1.12	Primary storage	B	Video camera
1.13	BIOS settings	C	Backbone
1.14	Cookies	D	Text file saved on your computer by a website
1.15	IRQ	E	DIMMs
1.16	Fibre optic cables	F	CMOS memory
1.17	Protocol	G	DVD
1.18	Secondary storage	H	Spam
1.19	CPU	I	FTP
1.20	Junk mail	J	Brain
		K	Keyboard
		L	Food for viruses

(10 x 1) (10)

Write down the result of each of the following functions if the values of the variables is as follow:

sString := "Be the change you want to see in the world"

a := 14

b := 2.5

c := 2

1.21 iPos := pos('you', sString);

What is value of iPos? (1)

1.22 Val(sString, iNumber, iCode)

What is the value of iCode? (1)

1.23 rAnswer := Round(a) div c * b + trunc(a*b)

What is the value of rAnswer? (2)

1.24 cChar := sString[5]

What is the value of cChar? (1)

TOTAL SECTION A: 25

SCENARIO

Peter is one of the best swimming coaches in the Eastern Cape. He is also the organiser of a prestige gala where the top 10 swimming clubs in the province compete against each other. The organising of such an event has many different aspects that need to be covered. He is working with a highly skilled committee that consist of people from all over the province.

SECTION B: SYSTEM TECHNOLOGIES

QUESTION 2

Workouts for Swim Coaches
By Big Fish Software
Open iTunes to buy and download apps.



Description
This app is designed for swim coaches to enter and run workouts. It is designed specifically for the iPad to make it easy to create and modify workouts and is highly customizable so a coach can use their own terminology and descriptions to setup a workout.


Big Fish Software Web Site ▶ **Workouts for Swim Coaches Support** ▶ ...More

What's New in Version 3.30

- Moved report settings to own tab (Settings->Report Preferences)
- Added selection of image for club logo on PDF printouts (under Settings->Report Preferences)
- Removed category on energy display string

...More

iPad Screenshots



[Source: <https://itunes.apple.com/za/app/workouts-for-swim-coaches/id454862600?mt=8>]

2.1 Peter found the above description of an app that he wants to use for coaching. Study the extract and answer the following questions.

- 2.1.1 What is an “app” in computer terms? (2)
- 2.1.2 What kind of operating system would Peter need to be able to run this specific app? (1)
- 2.1.3 Why is it necessary for all computing devices to have an operating system? (2)
- 2.1.4 It is said that this App is using a processing technique called *multithreading*. Explain what multithreading is. (2)
- 2.1.5 Name TWO other processing techniques AND explain when it will be used. (4)

- 2.2 To be able to run applications on a computer, RAM is needed.
- 2.2.1 Why is RAM so essential? (2)
- 2.2.2 Without buying new RAM, how can you overcome the problem when more RAM is needed than what is currently available? (1)
- 2.2.3 A problem called *thrashing* can occur when making use of the technique mentioned in QUESTION 2.2.2. Why will thrashing take place? (2)
- 2.3 The computers that are used during the gala for all the administrative work and input of data after each event, needs to be upgraded.
- 2.3.1 What is the term called when we say a computer is made up of many parts, so that it can easily be upgraded? (1)
- 2.3.2 Examine the following extract showing the specifications of one of the computers:



[Source: <http://www.windows-help-central.com/image-files/system-properties-logo.jpg>]

- According to your judgement, name TWO hardware components that need to be upgraded. (2)

2.3.3 Peter is considering buying a Solid State Drive (SSD) instead of a traditional hard drive (HHD) for his notebook.



Differentiate between the SSD and HDD according to the following characteristics:

	Characteristic	HDD	SSD
(a)	Capacity		
(b)	Noise		
(c)	Cost		

(6 ÷ 2) (3)

2.3.4 Looking at the old motherboard, a technician explains to Peter the importance of a motherboard.

(a) What is the main role of the motherboard? (1)

(b) A system clock is needed for the motherboard to effectively fulfil its main role. Explain what a system clock physically is. (1)

2.3.5 What is the name given to the technology that enables Peter to buy a new keyboard, and be able to use it without installing a driver for it? (1)

TOTAL SECTION B: 25

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

To make sure everything is covered for the gala, regular meetings with the committee is important. The best way for them to stay connected is through the Internet.

- 3.1 There is some confusion between the terms *Internet* and *World Wide Web (WWW)*. Distinguish between these two terms by describing both. (4)
- 3.2 The easiest way to send out minutes and agendas is through e-mail.
- 3.2.1 Describe the process that happens from the moment you sent an e-mail till the receiver reads the e-mail. (3)
- 3.2.2 Name the protocol used for sending e-mail via the Internet. (1)
- 3.2.3 On sending an e-mail to the committee, will you type the e-mail addresses in the **Bcc** field, or in the **Cc** field? Justify your answer. (1)
- 3.2.4 What can you do to make sure that the information is always sent out to all the committee members and that you do not forget to type in one of the addresses? (1)
- 3.2.5 On trying to send an attachment, the following message appears:
- The files you are trying to send exceed the 25MB attachment limit.
- The file can never be compressed to be smaller than 25 MB. What Internet service can you make use of to be able to get the file to the committee members? (1)
- 3.3 To find a location for meetings is difficult, as the members stay all over the province and cannot drive through for every meeting.
- 3.3.1 Name a software package that they can use to be able to have meetings from the comfort of their own homes. (1)
- 3.3.2 Name the protocol used to enable you to use the software named in QUESTION 3.3.1. (1)
- 3.4 Working from home most of the time, Peter needs to connect all his computing devices, including his Smartphone, iPad, printer and desktop computer, to a network.
- What do we call this type of network? (1)

- 3.5 In order to have Internet access, Peter uses an ADSL modem.
- 3.5.1 How does an ADSL modem work? (2)
- 3.5.2 What device does he need to allow all his devices to connect to his wired network wirelessly? (1)
- 3.6 Most people nowadays are making use of mobile technology. Describe THREE ways to improve your cellphone's battery life. (3)

TOTAL SECTION C: 20

SECTION D: DATA AND INFORMATION MANAGEMENT

Peter's friend, Steven, is a database administrator (DBA) and he suggested Peter using a database for the gala entries.

QUESTION 4

- 4.1 What is a *database*? (2)
- 4.2 List TWO duties of a database administrator. (2)
- 4.3 The following screenshot is an example of a possible database that can be used. It is created in Microsoft Access.

Name	Surname	Age	M/F	Team	Free50m	Breast 50m	Back 50m	Fly 50m
ADRIAAN	VAN NIEKERK	19	M	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BAREND	TAUTE	19	M	Sticks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RUAAN	VD BERG	19	M	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Frederik	Engelbrecht	16	M	Anchors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ELOUISE	ROUSSEAU	16	F	Sticks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
LIZ-ANGELA	ROMYLOS	16	F	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
JOHAN	VISAGIE	19	M	Sticks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ELBE	VD WALT	19	F	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ANIKA	PRETORIUS	15	F	Shovels	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Marco	Grond	16	M	Anchors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
KRISTEN	RAUTENBACH	16	F	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CHRISTINE	ROMYLOS	14	F	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- 4.3.1 Under which Database Management System (DBMS) software does Microsoft Access fall? (1)
- 4.3.2 Give TWO examples of validation rules that can be applied to this database. (2)
- 4.3.3 What can you do to prevent spelling errors when entering the team names? (2)
- 4.3.4 Upon saving the table, you are asked to create a primary key. (2)
- (a) What is a *primary key*? (2)
- (b) Create a primary key field for this table. (1)
- 4.4 One of the characteristics of computers that make them so attractive is their accuracy. Their accuracy, however, is dependent on the quality and correctness of the data that is supplied to them. Name AND describe THREE methods/techniques that can be used in data validation. (6)
- 4.5 Would this database be centralised, or distributed considering the scenario? Give ONE reason for your answer. (2)

TOTAL SECTION D: 20

SECTION E: SOLUTION DEVELOPMENT**QUESTION 5**

Study the following program code written in Delphi and answer the questions that follow.

```
Private
iCount, k, l : integer;

procedure TfrmSwim.btnReadClick(Sender: TObject);
Begin
  AssignFile(myFile,'Results.txt');
  reset(myFile);
  While not EOF(myFile) do
  begin
    inc(iCount);
    readln(myFile,sOneLine);
    arrName[iCount] := copy(sOneLine,1,Pos(',',sOneLine)-1);
    delete(sOneLine,1,pos(',',sOneLine)+1);
    arrTime[iCount] := StrToFloat(sOneLine);

    redOutput.Lines.Add(arrName[iCount] + #9+ FloatToStr(arrTime[iCount]));

  end;
  closefile(myFile);
end;

procedure TfrmSwim.FormCreate(Sender: TObject);
begin
  iCount := 0;
end;

procedure TfrmSwim.btnWinnerClick(Sender: TObject);
var
  rKeepTime : real;
  sKeepName : string;
begin
  for k := 1 to iCount -1 do
  for l := k+1 to iCount do
  begin
    if arrTime[k] > arrTime[l] then
    begin
      rKeepTime := arrTime[?a];
      arrTime[?b] := arrTime[?c];
      arrTime[?d] := rKeepTime;
    end;
  end;
  for K := 1 to iCount do
  redOutput.Lines.Add(arrName[k] + #9+ FloatToStr(arrTime[k]));
end;
```

- 5.1 What would be the purpose of this program? (3)
- 5.2 Write down the declaration of the two arrays. Assume that the maximum swimmers per event are 10. (4)
- 5.3 What should be the values of all the ?'s? Number your answers from **a – d.** (4 ÷ 2) (2)
- 5.4 After correcting the ?'s in QUESTION 5.1.3, an error will still occur within the last procedure. Where will the error be and why will it occur? (2)
- 5.5 All errors are not the same. Some errors occur as the code is written, while others occur when the program is run. Name and describe the **THREE** different types of errors you can encounter when programming in Delphi. (6)
- 5.6 Give an example of data in the text file. (3)

TOTAL SECTION E: 20

SECTION F: INTEGRATED SCENARIO

On the day of the gala everything needs to run smoothly.

QUESTION 6

As the administration officials are placed at different stations around the pool, they need to be connected in a way. Some are placed at the finishing line, receiving the times swam after each heat and others are sitting on the other side of the pool, in a double story building – processing the data and creating report sheets that has to be send to the medal table next to the long side of the pool.

- 6.1 Explain the difference between *data* and *information*. Support your explanation with an appropriate example according to the scenario above. (2)
- 6.2 It is obvious that a network will be needed between the different administration officials.
- 6.2.1 Define a *network*. (3)
- 6.2.2 Every device in a network has to have a Network Interface Controller (NIC) to allow it to communicate with the network. How does a NIC make this communication possible? (2)
- 6.2.3 What type of network will be used in this scenario? LAN, WAN, or WLAN? (1)
- 6.2.4 List TWO wireless technologies that can be used at the pool. (2)
- 6.2.5 Inside the building, they will be making use of cabled network.
- (a) Give an advantage of using a cabled network over a wireless network. (1)
- (b) What kind of cabling would you suggest they use? List TWO reasons why you will choose it. (3)
- (c) List TWO weaknesses that a cable as such (6.2.5 (b)) can have. (2)
- 6.3 Peter set up an End-User AUP document. What is the purpose of such a document? (2)
- 6.4 Data and information is critical to the success of the gala.
- 6.4.1 Explain what is meant by the GIGO principle. (2)
- 6.4.2 'Human error' can create problems in terms of accuracy and data loss. List THREE common problems in terms of 'human error'. (3)

- 6.5 Why should it be wise to make sure the firewalls on the computers are on? (2)
- 6.6 Peter has this idea of creating a website where he can load the programmes and show information on the gala. People must also be able to enter the gala online. The swimmers must use the web pages as a platform to write blogs and be able to upload videos of their events.
- 6.6.1 Should he create a Web 1.0 or a Web 2.0 website? Give a reason to support your answer. (2)
- 6.6.2 Seeing the needs for the web page, should you suggest Peter to create a static page or a dynamic page? Support your answer with a reason for your choice. (2)
- 6.6.3 Peter wants to assign a person to upload blog posts as the event is progressing, allowing users to view and comment on the event in real-time. What do we call this? (1)
- 6.6.4 Mention ONE plugin that needs to be installed to be able to view videos and audio files. (1)
- 6.6.5 Users should preferably upload only MPEG video files. Why? (2)
- 6.7 Peter makes sure that all software used on the computers is shrinkwrap propriety software.
- 6.7.1 What is shrinkwrap propriety software? (1)
- 6.7.2 What would we call it when one of the users copy the software and uses it illegally on their personal computers? (1)
- 6.8 Peter wants to make use of large monitors outside to show digital results instead of making printouts.
- 6.8.1 By doing that, he is being eco-friendly. What term do we use for being eco-friendly in terms of computing? (1)
- 6.8.2 The resolution of the monitor needs to be very high. What does resolution refer to? (1)
- 6.9 List THREE advantages of using a network compared to stand alone computers. (3)

TOTAL SECTION F: 40
GRAND TOTAL: 150

6.5	Waarom sal dit wys wees om seker te maak dat die <i>firewalls</i> op die rekenaars aan is?	(2)
6.6	Pieter het hierdie idee om 'n webtuiste te skep waarop hy die programme en inligting oor die gala kan wys. Mensse moet ook aanlyn vir die gala kan inskryf. Die swemmers moet die webtuiste as 'n platform gebruik om <i>blogs</i> te skryf en om video's van hul items op te kan laai.	(2)
6.6.1	Moet hy 'n Web 1.0 of 'n Web 2.0 webtuiste skep? Gee 'n rede om jou antwoord te ondersteun.	(2)
6.6.2	Stende die noodsaaklikheid vir 'n webbladsy, sou jy Pieter aanraai om 'n statiese- of dinamiese bladsy te skep? Ondersteun jou antwoord met 'n rede vir jou keuse.	(2)
6.6.3	Pieter wil 'n persoon aanstel om blogs op te laai soos wat die geleentheid aangaan, sodat die gebruikers die kommentaar oor die geleentheid kan sien soos wat dit in die oomblik (<i>real-time</i>) gebeur. Wat noem ons hierdie?	(1)
6.6.4	Noem EEN inpropprogram wat nodig is om video- en audioleërs te sien.	(1)
6.6.5	Gebruikers moet verkieslik net MPEG videoleërs oplaai. Waarom?	(2)
6.7	Pieter maak seker dat alle programmatuur wat op die rekenaars gebruik word, <i>shrinkwrap</i> eiendomsregtelike-programmatuur is.	
6.7.1	Wat is <i>shrinkwrap</i> eiendomsregtelike-programmatuur?	(1)
6.7.2	Wat sal ons dit noem indien een van die gebruikers die programmatuur kopieer en dit onwetig op hul persoonlike rekenaars gebruik?	(1)
6.8	Pieter wil van groot moniters gebruik maak om digitale uitslae te vertoon in plaas daarvan om uitdrukke te maak.	
6.8.1	Deur dit te doen, is hy eko-vriendelik. Watter term gebruik ons vir eko-vriendelikheid in terme van rekenaars?	(1)
6.8.2	Die resolusie van die monitor moet baie hoog wees. Waarna verwys resolusie?	(1)
6.9	Lys DRIE voordele vir die gebruik van 'n netwerk in vergelyking met 'n alleenstaande rekenaar.	(3)
TOTAAL AFDELING F: 40		
GROOTTOTAAL: 150		

AFDELING F: GEÏNTEGREERDE SENARIO

Alles moet op die dag van die gala gead verloop.

VRAAG 6

Aangesien die administratiewe beamptes op verskeie plekke rondom die swembad geplaas word, moet hulle op een of ander manier aan mekaar verbind wees. Sommige word by die wenstreep geplaas wat die tye na elke item geswem is, ontvang en ander sit aan die oorkant van die swembad, in 'n dubbelverdieping-gebou – besig om die data te verwerk en verslagkaarte te skep wat na die medaljetafel aan die langkant van die swembad gestuur moet word.

6.1 Verduidelik die verskil tussen *data* en *inligting*. Ondersteun jou verduideliking met 'n gepaste voorbeeld volgens die postaande senario. (2)

6.2 Dit is duidelik dat 'n netwerk tussen die verskillende administratiewe beamptes benodig word. (2)

6.2.1 Definieer 'n *netwerk*. (3)

6.2.2 Elke toestel in 'n netwerk moet 'n netwerk-koppelvlakbeheerder (NIC) hê om kommunikasie met die netwerk toe te laat. Hoe maak 'n NIC hierdie kommunikasie moontlik? (2)

6.2.3 Watter tipe netwerk sal in hierdie senario gebruik word? LAN, WAN, of WLAN? (1)

6.2.4 Lys TWEË koordlose tegnologieë wat by die swembad gebruik kan word. (2)

6.2.5 Hulle sal van bekabelde netwerk binne die gebou gebruik maak. (2)

(a) Gee 'n voordeel van die gebruik van 'n bekabelde netwerk teenoor 'n koordlose netwerk. (1)

(b) Watter tipe bekabeling stel jy voor hulle gebruik? Lys TWEË redes waarom jy dit sal kies. (3)

(c) Lys TWEË swakhede wat so 'n kabel (VRAAG 6.2.5 (b)) kan hê. (2)

6.3 Pieter het 'n Eindgebruiker-AUP dokument opgestel. Wat is die doel van so 'n dokument? (2)

6.4 Data en inligting is krities tot die sukses van die gala. (2)

6.4.1 Verduidelik wat word bedoel met die *G/GO* beginsel. (2)

6.4.2 Menslike foute kan probleme in terme van akkuraatheid en die verlies van data veroorsaak. Lys DRIE algemene probleme in terme van 'menslike foute'. (3)

- 5.1 Wat sal die doel van hierdie program wees? (3)
- 5.2 Skryf die verklaring van die twee skikkings neer. Veronderstel dat die maksimum swemmers per item 10 is. (4)
- 5.3 Wat sal die waardes van al die '?'s wees? Nummer jou antwoorde van **a – d**. (4 ÷ 2) (2)
- 5.4 Nadat die '?'s in VRAAG 5.1.3 gekorrigeer is, kom daar steeds 'n fout met die laaste prosedure voor. Waar sal die fout wees en waarom sal dit voorkom? (2)
- 5.5 Alle foute is nie dieselfde nie. Sommige foute kom voor terwyl die programkode geskryf word, terwyl ander foute voorkom wanneer die program uitgevoer word. Noem en beskryf die DRIE verskillende tipes foute wat tydens programmering in Delphi kan ondervind. (6)
- 5.6 Gee 'n voorbeeld van data in die teksleër. (3)

TOTAAL AFDELING E: 20

Bestudeer die volgende programkode wat in Delphi geskryf is en beantwoord die vrae wat daarop volg.

```

Private
    l: integer;
    k: integer;
    i: integer;
procedure TFormSwim.btnReadClick(Sender: TObject);
begin
    AssignFile(myLeer, 'Resultate.txt');
    reset(myLeer);
    while not EOF(myLeer) do
        begin
            inc(i);
            readln(myLeer, sEenLyn);
            arrName[i] := copy(sEenLyn, 1, Pos(',', sEenLyn)-1);
            delete(sEenLyn, 1, pos(',', sEenLyn)+1);
            arrTyd[i] := StrToFloat(sEenLyn);
            redOutput.Lines.Add(arrName[i] + #9+ FloatToStr(arrTyd[i]));
        end;
    closeFile(myLeer);
end;

procedure TFormSwim.btnWinnerClick(Sender: TObject);
var
    rHouTyd: real;
    sHouNaam: string;
begin
    for k := 1 to i-1 do
        for l := k+1 to i do
            begin
                if arrTyd[k] > arrTyd[l] then
                    begin
                        rHouTyd := arrTyd[a];
                        arrTyd[b] := arrTyd[c];
                        arrTyd[d] := rHouTyd;
                    end;
            end;
        end;
    for k := 1 to i do
        redOutput.Lines.Add(arrName[k] + #9+ FloatToStr(arrTyd[k]));
    end;
end;

```

AFDELING D: DATA- EN INLIGTINGSBESTUUR

Pieter se vriend, Stefan, is 'n databasis-administrateur (DBA) en hy stel voor dat Pieter 'n databasis vir die gala inskrywings gebruik.

VRAAG 4

4.1 Wat is 'n *databasis*? (2)

4.2 Lys TWEE pligte van 'n databasis-administrateur. (2)

4.3 Die volgende skermafdruk is 'n voorbeeld van 'n moonlike databasis wat gebruik kan word. Dit is in Microsoft Access geskep.

Name	Van	Oud	M/V	Span	Kruip50m	Bors50m	Rug50m	Vlinder50
ADRIAN	VAN NIEKERK	19	M	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BAREND	TAUTE	19	M	Sticks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RUAAN	VD BERG	19	M	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Frederik	Engelbrecht	16	M	Anchors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ELOUISE	ROUSSEAU	16	F	Sticks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LIZ-ANGELA	ROMYLOS	16	F	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
JOHAN	VISAGIE	19	M	Sticks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ELBE	VD WALT	19	F	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ANIKA	PRETORIUS	15	F	Shovels	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Marco	Grond	16	M	Anchors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
KRISTEN	RAUTENBACH	16	F	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CHRISTINE	ROMYLOS	14	F	Sticks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

4.3.1 Onder watter Databasisbestuurstelsel (*Database Management System* – DBMS) programmatuur val *Microsoft Access*? (1)

4.3.2 Gee TWEE voorbeelde van validasierings wat vir hierdie databasis van toepassing kan wees. (2)

4.3.3 Wat kan jy doen om speifoute te voorkom wanneer spanname ingesleutel word? (2)

4.3.4 Met die stoor van die tabel, word jy gevra om 'n primêre sleutel te skep. (2)

(a) Wat is 'n *primêre sleutel*? (2)

(b) Skep 'n primêre sleutelveld vir hierdie tabel. (1)

4.4 Een van die eienskappe van rekenaars wat hul so aanloklik maak, is hul akkuratheid. Hul akkuratheid is wel afhanklik van die kwaliteit en korrektheid van die data wat aan hulle voorsien word.

Noem EN beskryf DRIE metodes/tegnieke wat gebruik kan word in datavaldasie. (6)

4.5 In ooreenstemming van die scenario, sal hierdie databasis gesentraliseer of verspreid wees? Gee EEN rede vir jou antwoord. (2)

TOTAAL AFDELING D: 20

- 3.5 Pieter maak gebruik van 'n ADSL modem om Internettoegang te hê.
- 3.5.1 Hoe werk 'n ADSL modem? (2)
- 3.5.2 Watter toestel het hy nodig sodat hy al sy toestelle koordloos aan sy bekabelde netwerk kan koppel? (1)
- 3.6 Meeste mense maak deesdae van mobiele tegnologie gebruik. Beskryf DRIE maniere om jou selfoon se batterylêwe te verbeter. (3)
- TOTAAL AFDELING C: 20**

AFDELING C: KOMMUNIKASIE TEGNOLOGIE EN NETWERKTEGNOLOGIE

VRAAG 3

Om seker te maak alles vir die gala is gedeek, is gereelde vergaderings met die komitee belangrik. Die beste manier vir hulle om in verbinding te bly, is deur die Internet.

3.1 Daar is bietjie verwarring tussen die terme *Internet* en *Wêreldwye web* (WWW). Onderskei tussen hierdie twee terme deur albei te beskryf. (4)

3.2 Die maklikste manier om notules en agendas uit te stuur, is deur e-pos.

3.2.1 Beskryf die proses wat gebeur vandat jy 'n e-pos stuur totdat die ontvanger die e-pos lees. (3)

3.2.2 Noem die protokol wat gebruik word om 'n e-pos via die Internet te stuur. (1)

3.2.3 Wanneer jy 'n e-pos na die komitee stuur, sal jy die e-posadres in die **Bcc** veld of in die **Cc** veld tik? Regverdig jou antwoord. (1)

3.2.4 Wat kan jy doen om seker te maak dat die inligting altyd na al die komiteelede gestuur word en dat jy nie vergeet om een van die adresse in te sluitel nie? (1)

3.2.5 Toe jy probeer om 'n aanhegsel te stuur, verskyn die volgende boodskap:

The files you are trying to send exceed the 25MB attachment limit.

Die lêer kan nooit kompres word om kleiner as 25 MB te wees nie. Van watter Intermediens kan jy gebruik maak om in staat te wees om die lêer by die komiteelede te kry? (1)

3.3 Aangesien lede regoor die provinsie bly en nie vir elke vergadering kan deurry nie, is dit moeilik om 'n ligging vir die vergaderings te vind.

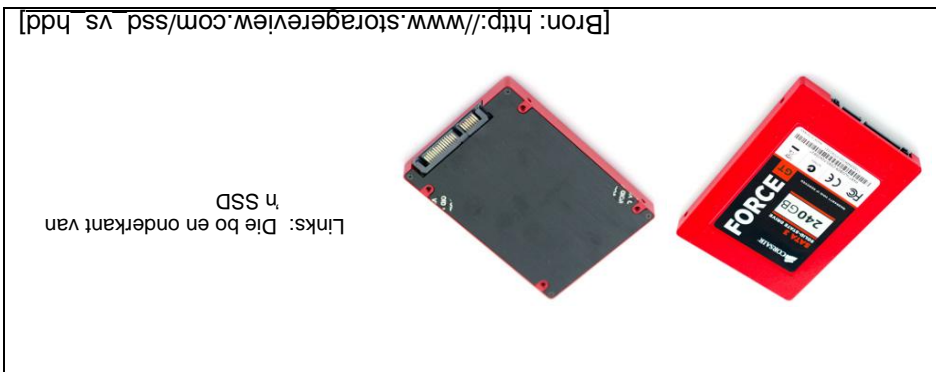
3.3.1 Noem 'n programmatuurpakket wat hulle kan gebruik om hul vergaderings in die gemak van hul eie huise te kan hou. (1)

3.3.2 Noem die protokol wat gebruik word om jou in staat te stel om die programmatuur genoem in VRAAG 3.3.1 te gebruik. (1)

3.4 Omdat Pieter meeste van die tyd van die huis af werk, het hy nodig om al sy rekenaarstoele, insluitende sy Slimfoon, iPad, drukker en desktop rekenaar, aan 'n netwerk te koppel.

3.4.1 Wat sal ons hierdie tipe netwerk noem? (1)

2.3.3 Pieter oorweeg dit om 'n *Solid State Drive* (SSD) in plaas van 'n tradisionele hardeskyf (HHD) vir sy skootrekenaar te koop.



Volgens die volgende eienskappe, differensieer tussen die SSD en HDD:

	Eienskap	HDD	SSD
(a)	Kapasiteit		
(b)	Geraas		
(c)	Koste		

(3) (6 ÷ 2)

2.3.4

Terwyl hy na die ou moederbord kyk, verduidelik 'n tegnikus aan Pieter die belangrikheid van 'n moederbord.

(1) (a) Wat is die hooftrol van die moederbord?

(1) (b) 'n Steisêlklok is nodig vir die moederbord om sy hooftrol effektiel te vervul. Verduidelik wat die steisêlklok fisies is.

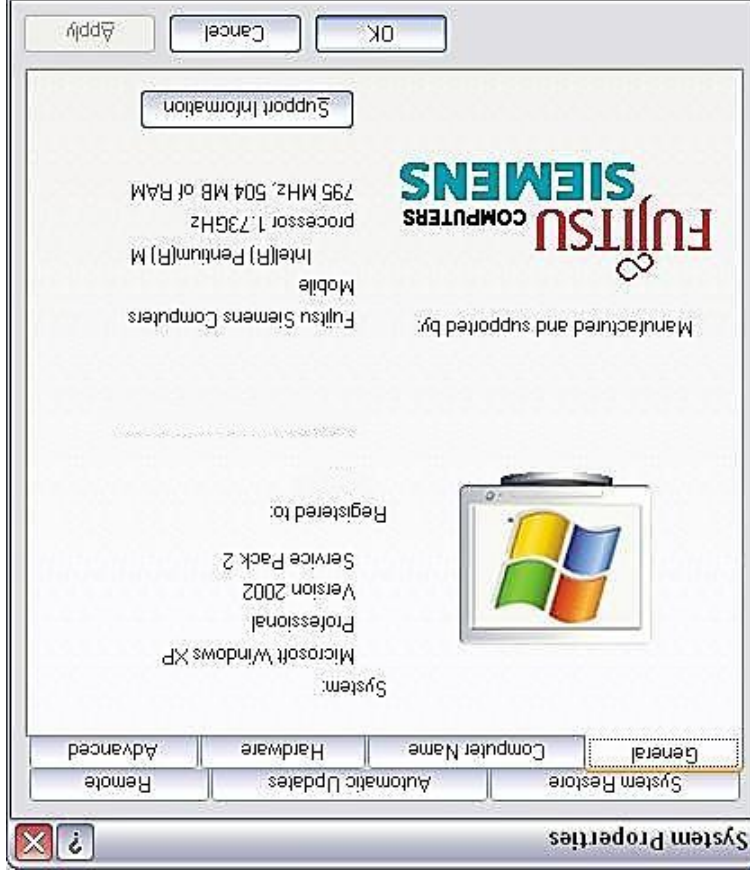
2.3.5

Wat is die naam aan die tegnologie gegee wat dit vir Pieter moontlik maak om 'n nuwe sleutelbord te koop, en dit te kan gebruik sonder om 'n drywer daarvoor te installeer?

(1)

25 TOTAAL AFDELING B:

- 2.2 RAM word benodig om toepassings op 'n rekenaar uit te voer.
- 2.2.1 Waarom is RAM so noodsaaklik? (2)
 - 2.2.2 Sonder om nuwe RAM te koop, hoe kan jy die probleem oorkom wanneer meer RAM benodig word as wat tans beskikbaar is? (1)
 - 2.2.3 'n Probleem genaamd *thrashing* kan voorkom wanneer daar gebruik gemaak word van die tegniek genoem in VRAAG 2.2.2. Waarom sal *thrashing* plaasvind? (2)
- 2.3 Die rekenaars wat gedurende die gala vir alle administratiewe werk en inlees van data na elke item gebruik word, moet opgedateer word.
- 2.3.1 Wat is die term wat gebruik word wanneer ons se 'n rekenaar is uit klomp verskillende dele saamgestel, sodat dit maklik opgegradeer kan word? (1)
 - 2.3.2 Bestudeer die volgende uitreksel wat die spesifikasies van een van die rekenaars vertoon. (2)



[Bron: <http://www.windows-help-central.com/image-files/system-properties-logo.jpg>]

Volgens jou oordeel, noem TWEE hardeware komponente wat opgegradeer moet word. (2)

SCENARIO

Pieter is een van die beste swematrainers in die Oos-Kaap. Hy is ook die organiseerder van 'n prestige gala waar die top 10 swemklubs in die provinsie teen mekaar kompeteer. Die organisering van so 'n gebeurtenis het baie verskillende aspekte wat gedek moet word. Hy werk saam met 'n hoogsgekwalfiseerde komitee wat uit mense regoor die provinsie bestaan.

AFDELING B: STELSELTEGNOLOGIE

VRAAG 2

Workouts for Swim Coaches
By Big Fish Software
Open iTunes to buy and download apps.



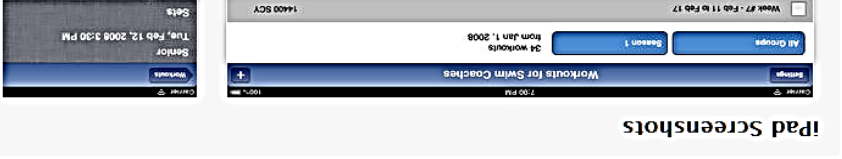
Description
This app is designed for swim coaches to enter and run workouts. It is designed specifically for the iPad to make it easy to create and modify workouts and is highly customizable so a coach can use their own terminology and descriptions to setup a workout.
Big Fish Software Web Site > Workouts for Swim Coaches Support >
...More

What's New in Version 3.30

- Moved report settings to own tab (Settings->Report Preferences)
- Added selection of image for club logo on PDF printouts (under Settings->Report Preferences)
- Removed category on energy display string

 ...More

iPad Screenshots



Rated 4+
© 2013 Bruce Garland
Developer: Bruce Garland
German, Italian, Portuguese
Languages: English, Dutch,
Size: 3.4 MB
Version: 3.30
Updated: 25 July 2013
Category: Sports
R119.99
View In iTunes

[Bron: <https://itunes.apple.com/za/app/workouts-for-swim-coaches/id454862600?mt=8>]

2.1 Pieter het die postaanbode beskrywing van 'n toep ('app') gevind wat hy wil gebruik vir afrigting. Bestudeer die uittreksel en beantwoord die vrae wat volg.

2.1.1 Wat is 'n toep ('app') in rekenaarterm? (2)

2.1.2 Water tipe bedryfstelsel (operating system) sal Pieter benodig om in staat te wees om hierdie spesifieke toep ('app') te kan gebruik? (1)

2.1.3 Waarom is dit vir alle rekenaarstelselle nodig om 'n bedryfstelsel te hê? (2)

2.1.4 Daar word gesê dat hierdie toep ('app') van 'n verwerkingsstegniek genaamd *multiraadverwerking* (multithreading) gebruik maak. Verduidelik wat multiraadverwerking is. (2)

2.1.5 Noem TWEE ander verwerkingsstegnieke EN verduidelik wanneer dit gebruik sal word. (4)

Skrif die resultaat van elk van die volgende funksies neer as die waardes van die veranderlikes as volg is:

```

String := "Be the change you want to see in the world"
a := 14
b := 2.5
c := 2
    
```

- 1.21 !Pos := pos('you', sString);
Wat is die waarde van !Pos? (1)
- 1.22 Val(sString, !Nommer, !Kode)
Wat is die waarde van !Kode? (1)
- 1.23 rAntwoord := Round(a) div c * b + trunc(a*b)
Wat is die waarde van rAntwoord? (2)
- 1.24 cChar := sString[5]
Wat is die waarde van cChar? (1)

TOTAAL AFDELING A: 25

Pas KOLOM A met die korrekte antwoord in KOLOM B. Skryf slegs die vraagnummers en die bypassende letter in KOLOM B in jou ANTWOORDEBOEK neer.

KOLOM A		KOLOM B	
1.11	<i>Firewire</i>	A	Aar
1.12	Primêre berging	B	Videokamera
1.13	BIOS instellings	C	Ruggraat (<i>Backbone</i>)
1.14	<i>Cookies</i>	D	Tekslêer op jou rekenaar deur 'n webtuiste gestoor
1.15	<i>IRQ</i>	E	DIMMs
1.16	Optiese veselkabels	F	CMOS-geheue
1.17	Protokol	G	DVD
1.18	Sekondêre berging	H	<i>Spam</i>
1.19	SVE	I	FTP
1.20	Gemorspos (<i>Junk mail</i>)	J	Brein
		K	Stuurtelbord
		L	Kos vir virusse

(10 x 1) (10)

- 1.6 'n ... is 'n stel reëls wat kommunikasie en dataoordrag oor 'n netwerk of die Internet toelaat.
- A Algoritme
B Protokol
C Wet
D Topologie
- (1)
- 1.7 Spioenware/Klikprogramme ('Spyware') ...
- A lei jou na webtuistes waarheen jy nie veronderstel was om te gaan nie.
B is 'n program verskuil met bruikbare funksies.
C is 'n versameling van programme wat ontwerp is om 'n rekenaar te infiltrêer en die hoogste voorregte te kry.
D is speurspeltyes soos Cluedo.
- (1)
- 1.8 Water EEN van die volgende is NIE 'n DBMS-programmatuur pakket NIE?
- A Blackfish
B Octopus
C Base
D Oracle
- (1)
- 1.9 Water EEN van die volgende verteenwoordig die volgorde van koördlose reikwydte/bandwydte van die hoogste tot die laagste?
- A WiFi; Bluetooth; WiMAX
B Bluetooth; WiFi; WiMAX
C WiMAX; Bluetooth; WiFi
D WiMAX; WiFi; Bluetooth
- (1)
- 1.10 Water EEN is nie aan die *global village* verwant nie?
- A Tele-pendel
B Huiskantoor
C Sosiale kantoor
D Virtuele kantoor
- (1)

AFDELING A: MEERVOUDIGEKEUSE-VRAE EN PAS DIE KOLOMME BYMEKKAAR

VRAAG 1

Verskeie opsies word as moontlike antwoorde op die volgende vrae gegee. Kies die korrekte antwoord en skryf slegs die letter (A–D) langs die vraagnommer (1.1–1.10) in die ANTWOORDEBOEK neer, byvoorbeeld 1.21 D.

- 1.1 Wat is NIE 'n eienskap van RAM NIE?
- A Bestendig
B Beperk
C Vinnig
D Elektronies
- 1.2 Water EEN van die volgende maak NIE van kasberging gebruik NIE?
- A SVE
B Berging
C Tik (*Typing*)
D Webbladsye
- 1.3 Anders as 'n bus, is ... koneksie toegewyd.
- A thunderbolt
B SVE
C taxi
D punt-to-punt
- 1.4 Die hardewarekomponent wat die 'startup'-instruksies huisves.
- A BIOS
B SVE
C RAM
D ROM-skyfie op die moederbord.
- 1.5 ... is 'n voorbeeld van 'n gekompileerde taal.
- A Java
B Delphi
C Scratch
D Python
- (1) (1) (1) (1) (1)

INSTRUKSIES EN INLIGTING

1. Hierdie vraestel bestaan uit VYF vrae.
2. Beantwoord AL die vrae.
3. Lees AL die vrae aandagtig deur.
4. Nummer die antwoorde korrek volgens die nommeringsteël wat in hierdie vraestel gebruik word.
5. Skryf netjies en leesbaar.

Hierdie vraestel bestaan uit 16 bladsye.



TYD: 3 uur

PUNTE: 150

INLIGTINGSTEGNOLOGIE V2

NOVEMBER 2014

GRAAD 11

**NASIONALE
SENIOR SERTIFIKAT**