

# **Computer Applications Technology**

## **Study Opportunities**

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**Grade 12**

**June 2014**

**Paper 1 Practical**

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*Time: 3 hours*

*Marks: 180*

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This paper consists of 14 pages (title page and HTML Tag list included)

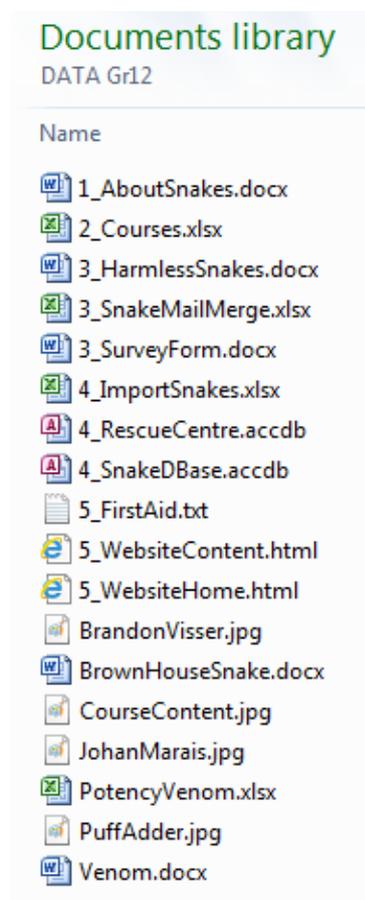
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## Instructions and information

1. Note that you will not be allowed to leave the examination venue before the end of the examination period.
2. Save your work at regular intervals.
3. Read through each question before answering or solving the problem. Do not do more than is required by the question.
4. Note that no printing is required.
5. During the examination you may make use of the help facilities of the programs which you are using. You may not use any other resource material.
6. Note that if data is derived from a previous question which you cannot answer, you should still proceed with the questions that follow.
7. Formulas and/or functions must be used for all calculations in questions involving spreadsheets unless specified otherwise – in other words, do not manually calculate and type in the answers!

### **Please note:**

You will receive together with the question paper an examination folder called **DATA Gr12**, which contains the following subfolders and files:



This folder will be referred to as your *exam folder*.

## **Theme: Reptile Awareness Campaign**

*A talk by a well-known reptile expert has given the school an idea to start a reptile awareness campaign, aimed at raising pupils' awareness of the different snakes in South Africa. Accordingly a number of pupils have become involved at the local Animal Rescue Centre, where reptiles and other animals are treated.*

### **Question 1**

*Information on different aspects of snakes – harmless and dangerous ones – is available in a document.*

Open the document **1\_AboutSnakes** and round it off by doing the following:

- 1.1 Change the styles used in the document as follows:
  - 1.1.1 Modify the Heading 3 style to have a red font colour. (1)
  - 1.1.2 Create a new style called TopLevel, based on the Heading 1 style, that will use the font Cambria (Headings) 18 pt, bold and that will have a lower paragraph border (see the example below).  

**Common Snakes**

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Apply this new style to the four headings Common Snakes, Snake Venom, Snake Facts and Bibliography. (5)
- 1.2 Locate the section on the second page under the heading *Common Snakes*. Track Changes were used to make changes.
  - 1.2.1 Accept the proposed changes in the paragraph starting with “Red-lipped Snakes...”. (1)
  - 1.2.2 Reject the proposed change in the paragraph starting with “The Flowerpot Snake...”. (1)

*Note:* Make sure you switch the Track Changes off if you switched them on while answering this question.
- 1.3 Locate the text ‘Flowerpot Snake’ in the paragraph *Common Snakes*. Add a footnote to it that reads “Often mistaken for earthworms”. Any number or character may be used as symbol for the footnote. (2)
- 1.4 Locate the paragraph **Important note....**
  - 1.4.1 Move this paragraph into the text box to the right of the bullet list. (1)

1.4.2 Change the line spacing to 1.5, and expand the character spacing of the words **Important note** by 1 pt, as shown below: (2)

**How do I keep snakes away from my house and garden?**

- Clean up any building rubble, rocks or plant material lying around. These places are good hiding places for snakes.
- Fix dripping taps, because they attract frogs, which attract certain snakes.
- Rats and mice attract snakes. Cats are a good way to control rodent populations on your property. However, they may occasionally catch snakes and bring them to your house!

**Important note:** There is no plant you can plant or liquid you can spray that keeps snakes away. Several tests have proved that these do not work and are a waste of money.

1.5 Replace all occurrences of the word *hemotoxic* with the word *haemotoxic*. (2)

1.6 Locate the text box in the paragraph about *Types of snake venom*.

- Insert the word processing file **Venom** as an icon in this text box.
- Ensure that changes to the source file (Venom) will be reflected in the document (1\_AboutSnakes). (3)

1.7 The spreadsheet **PotencyVenom.xlsx** contains a chart showing the potency of snake venom on a scale of 1–10.

- Copy this chart, and paste it in the space indicated under the heading *Types of snake venom*.
- Any subsequent changes made to the chart in the spreadsheet, must automatically be reflected in the *Word* document. (2)

1.8 In order to generate an up-to-date bibliography, with correct sources and citations, make the following reference changes in the document:

1.8.1 The source *Emmett & Patrick* incorrectly gives Durban as the city of publication. Change the city to Pretoria. (1)

1.8.2 Add the following book source:

**Author:** Marais, J.  
**Title:** A complete guide to the Snakes of Southern Africa  
**Year:** 2004  
**City:** Cape Town  
**Publisher:** Struik Publishers (2)

1.8.3 Locate the yellow highlighted text under the heading *Types of snake venom fangs*, and insert a citation to the source *Emmett & Patrick* at the end of the text. (1)

1.8.4 Insert an automatic bibliography under the heading *Bibliography*. (Note that the heading *Bibliography* should not appear twice.) (1)

- 1.9 Place the bulleted lists under the heading *Snakebite treatment: Do's and Don'ts* in columns as follows:
- There must be two columns.
  - The columns must be separated with a space of 0.6 cm.
  - Use a column break to ensure that both sub-headings appear at the top of their respective columns. (3)
- 1.10 Locate the bullet lists dealing with the Black Mamba and the Puff Adder, under the heading *Snake Facts*.
- 1.10.1 Insert the image **PuffAdder.jpg** to the right of the second bullet list on the Puff Adder.  
Ensure that the text wraps to the left of the image, and that the size and position of the image corresponds (approximately) to that of the image of the Black Mamba in the first bullet list. (3)
- 1.10.2 Supply the image with a caption that reads *Figure 2: Puff Adder*. (1)
- 1.11 Locate the section dealing with the *Brown House Snake* (under the green highlighted heading on page 5).
- Remove the entire section on the Brown House Snake (heading and five paragraphs that follow), and place this in the existing document **BrownHouseSnake.docx** in your exam folder.
  - Save and close the file **BrownHouseSnake.docx**. (2)
- 1.12 The table towards the end of the document must appear on a single page in landscape orientation. Use section breaks and (if necessary) margin settings to achieve this.  
It is important that the pages before and after the table remain in portrait orientation, and that the margins of these pages are not changed. (3)
- 1.13 Make the following changes in the main document **1\_About Snakes**:
- 1.13.1 Locate the orange text *Brown House Snake*, under the heading *Common Snakes* at the top of the document.  
Create a hyperlink on this text that links to the file **BrownHouseSnake.docx**. (2)
- 1.13.2 Create a bookmark at the sub-heading *Puff Adder*, under *Snake Facts*.  
The name of the bookmark must be *puffadder*. (2)
- 1.14 Go to the first page of the document (Table of Contents and Table of Figures).
- 1.14.1 Insert an automatic *Table of Contents*, under the appropriate heading.  
Use only the three styles TopLevel, Heading 2 and Heading 3. (3)
- 1.14.2 Insert an automatic *Table of Figures*, under the appropriate heading, that will contain the captions of the two snake images. (1)
- 1.14.3 Place a solid line page border around this first page only. (2)

- 1.15 Insert the file name of the document, as a field in the header.  
This header must appear on all pages except the first page (Tables of Contents and Figures) and the second last page (table of the most venomous snakes of South Africa). (4)
- 1.16 Insert automatic page numbering at the bottom of the pages. (1)
- 1.17 Change the *metadata* properties of the file **1\_AboutSnakes** as follows: (2)
- Change the *Comments* to “CAT Practical Exam”
  - Change the *Company* to the name of your school.

**Save and close the document.** [54]

## Question 2

*A spreadsheet is being used to keep track of pupils’ enrolments in various reptile courses that are being presented by the reptile expert Johan Marais.*

Open the spreadsheet **2\_Courses** and do the following on the **Participants** worksheet:

- 2.1 Use *Autofill* in column A to number all the participants, starting from 1. (1)
- 2.2 The initial zero of Yaaseen Allie’s cell phone number is missing. Make the necessary correction. (1)
- 2.3 Format the column headings in cells I2:L4 to be displayed as follows: (2)

<b>Courses</b>			
<b>First Aid for Snake Bite</b>	<b>Reptile Awareness</b>	<b>Snake Awareness</b>	<b>Snake Handling</b>
<b>Fri 30 May</b>	<b>Sat 14 Jun</b>	<b>Sat 12 Jul</b>	<b>Sat 12 Jul</b>

- 2.4 Use text functions to create in column H an e-mail address for each participant, that will have the following format (all in lowercase letters):
- the surname
  - followed by the first letter of the name
  - followed by “@courses.co.za”

Yaaseen Allie’s e-mail address will therefore appear as follows:

**alliey@courses.co.za** (6)

- 2.5 Participants' enrolments in the courses are indicated with a "1" in columns I to L. The cost of each course is shown at the top of each column, in cells I1 to L1 respectively. Calculate in column M the total costs for the participants, for the courses in which they are enrolled. (5)
- 2.6 Participants who have enrolled for all four courses obtain a 10% discount on the Total Cost. Calculate in column O the Final Cost for the participants, i.e. after the discount has been subtracted for those participants who qualify for it. (5)
- 2.7 The amounts already paid by participants are shown in column N. Calculate in column P the outstanding amounts. (1)
- 2.8 Each participant earns a number of extramural 'points' for his or her school. The number of points earned depends upon the grade of the pupil. A list of the points per grade is contained in the worksheet **Points**. Use a VLookup function in column Q to calculate the number of points earned by each participant. (4)
- 2.9 It has been decided to award a prize of Johan Marais' latest book on reptiles to pupils who have enrolled for both the Snake Awareness course (column K) and the Snake Handling course (column L). Use an IF function in column R (Book Prize) to indicate whether a pupil qualifies for the book or not. Display the word "Yes" if a pupil qualifies for the book. If a pupil does not qualify for the book, the cell must not display anything. (3)
- 2.10 Calculate the following at the bottom of the spreadsheet:
- 2.10.1 The number of girls and boys who have enrolled (cells C85 and C86). (3)
- 2.10.2 The total amounts already paid by pupils from the respective schools (cells C89 to C92). Use both *relative* and *absolute* cell addressing to reduce the amount of typing. (5)
- 2.10.3 The average amount paid in by a pupil (cell C94). (2)
- 2.10.4 The number of pupils who qualify for a book prize (cell C98). (3)
- 2.11 Create a chart, on the Participants worksheet, to compare the total number of pupils enrolled for each of the courses (displayed in cells I83 to L83). The following aspects of the chart are important:
- The percentage that each course enrolment makes up of the entire number of enrolments must be shown on the chart.
  - The chart must have a descriptive legend.
  - Give the chart a suitable title. (4)

Some course members volunteered to help with weekend feeding and maintenance tasks at the local Animal Rescue Centre, for which they are given a small allowance.

Continue work on the **Maintenance** worksheet.

2.12 The times at which they started and finished work are recorded in columns G and H, respectively.

Calculate in column I the number of hours each pupil worked. Use the Round function to round this number to one place after the decimal point. (3)

2.13 It has been decided to give each pupil an amount, dependent on his or her performance in the First Aid course (marks in column J), according to the following scheme:

First Aid Marks	Amount
95 – 100	R 60.00
80 – 94	R 50.00
0 – 79	R 20.00

Use a Nested IF function in column K to calculate the amount given to each pupil. (5)

**Save and close the spreadsheet.**

**[53]**

### Question 3

3.1 *The Animal Rescue Centre would like to make handouts with details of the harmless snakes, which visitors may interact with under supervision.*

The basic layout of the handout has already been created.

- Open the document **3\_HarmlessSnakes** and use *Word's* mail merge facility to produce the necessary handouts, for the *harmless* snakes only. Replace the placeholders with the corresponding fields in the source spreadsheet **3\_SnakeMailMerge**.
- Save the document, with the appropriate fields inserted, just *before* you complete the merge. Use the same file name **3\_HarmlessSnakes**.
- Save the completed merge as **3\_HarmlessSnakes\_Merge**.

Save and close both documents.

(5)

3.2 *Visitors to the Centre are encouraged to complete and return an online survey form.*

Open the document **3\_SurveyForm** and do the following:

- Remove the five tab leader lines.
- Change the type of the text form field at **Age** to accept numbers only.
- Replace the yellow highlighted placeholder at the text ‘How would you describe your welcome at the Centre?’ with a *Legacy* Drop-Down field. The items in the drop-down list must be:
  - Hostile
  - Neutral
  - Warm
- Restrict editing of the document to the filling in of forms. Do NOT add a password.
- Save and close the document. (5)

[10]

#### Question 4

4.1 *The Centre needs help in customising a database of snakes.*

Open the database **4\_SnakeDBase** and make the following changes to the design of the table **SnakeInf**:

- 4.1.1 Add an AutoNumber field called **ID** as the first field in the table. Make this field the primary key. (3)
- 4.1.2 Make it compulsory for a user to enter a value for the field **NameEng** when entering a new record in the table. (1)
- 4.1.3 Change the size of the field **Family** to a more suitable value, noting that no snake family name is longer than 20 characters. (1)
- 4.1.4 The field **ToxCODE** contains a six-character code used by the Centre to categorise snakes according to the level of toxicity or poison.  
Create an input mask that will force users to enter data in this field in the following format:
  - Three compulsory capital letters followed by
  - Three compulsory digits. (3)
- 4.1.5 Create a validation rule on the field **LengthMax**, to ensure that only values from 0.1 m to 7 m will be accepted.  
A suitable error message should be displayed if the user attempts to enter a value that is not in the range specified. (2)
- 4.1.6 Delete the single record in the table (snake name = *TestName*).  
Then import the contents of the spreadsheet **4\_ImportSnakes**, which you will find in your exam folder, into the table. (3)

**Close the database.**

4.2 *The Animal Rescue Centre maintains a database of volunteers to plan the shift work, and to help them with their monthly budget.*

Open the database **4\_RescueCentre**. Use the table **PupilData** to do the following:

4.2.1 Create a query as follows:

- Display only the fields **FirstName**, **Surname**, **CellNo** and **School**.
- Show only the records of Grade 11 and 12 volunteers who can work on a Saturday.
- Save the query as **WeekendWork**.

(4)

4.2.2 Open the existing query **MonthsWorked**.

- Create a new calculated field called **Months**.  
It must show the number of months each learner has worked, from their start date up to the current date.
- Use the *Round* function to round off this number to show no decimal places.
- *Note:* You can assume that there are 30 days in every month for the purposes of this calculation.

(5)

4.2.3 Open the existing query **Earnings**, and create a new calculated field, called **Wages**, that will display the total amount earned by each volunteer, according to the following scheme:

Each volunteer receives a basic amount, calculated as *BasicRate x Shifts*. An additional amount of R15 is added if the volunteer has completed a first aid course.

Format the calculated amount as Currency.

**Hint:** A Yes/No field that has been checked has a value of -1 when used in a calculation; if not checked it has a value of 0.

(6)

4.2.4 Open the form, called **Volunteer**, and change it as follows:

- Place a blue frame around all the fields in the Detail section.
- Replace the Interest text box with a combo box containing the five animal interests that are catered for (Reptiles, Domestic, Farmyard, Wild, Birds).

(4)

4.2.5 Open the existing report **DangerReport** (based on the query **DangerPay**) that lists all those volunteers who work with potentially dangerous animals, in the categories *Reptiles* or *Wild*, and adapt it as follows:

- Use grouping to list the volunteers who work with reptiles, separately from those who work with wild animals.
- These volunteers receive a once-off danger allowance of R20. Calculate at the bottom of the report the total amount that should be budgeted for danger allowances. Supply a descriptive label.

(4)

- 4.2.6 The number of shifts that each volunteer works at the Centre per month, is stored in the field *Shifts*. Each learner receives R30 per shift.

A retail store has agreed to donate *to each participating school* a sum equivalent to *45% of the total amount earned by their learners for shift work* (no other allowances), for the current month.

Create a report called **Donations**, based on the table **PupilData**, that contains only the fields *Firstname*, *Surname*, *Grade*, *School* and *Shifts*.

- Group the records by *School*, AND then sort them first by *Grade*, then by *Surname* within each group.
- Calculate and display at the bottom of each group the amount donated to each school. Supply a suitable label.
- Remove the current date that displays at the bottom of each page. (10)

**Close the database.**

**[46]**

## Question 5

*A volunteer has put together a basic website to advertise details of certain reptile and snake courses that are being presented at the Centre. However, some changes and corrections need to be made before the site can be published on the Internet.*

Open the document **5\_WebsiteHome** in your HTML editing program and do the following:

- 5.1 Change the colour of the heading “Reptile and Snake Courses” to red. (1)
- 5.2 Locate the table under the heading **Presenter**.
- 5.2.1 The text starting “A total of seventy-eight learners ...” is centre-aligned in its cell.  
Change the alignment of the text in this cell to be left-aligned. (1)
- 5.2.2 Locate the URL: <http://www.johanmarais.co.za> at the end of the section.  
Convert this text to a hyperlink that will enable the user to navigate to this website in a browser. (3)
- 5.2.3 Remove the borders from the table. (1)

The above table should now appear approximately as follows:

A total of seventy-eight learners from our school and our neighbouring schools will attend different courses presented by Johan Marais. His interest in snakes started at the early age of about 8, when he used to come across snakes on farms in the vicinity of Montclair. He was inspired by friends to learn more about reptiles. One thing led to another, up to the point where he has now become an internationally recognised herpetologist and author of numerous books on snakes and reptiles in Southern Africa. He offers a variety of courses on snakes, and naturally he loves sharing his experiences about these fascinating creatures in his wonderful series of books. Visit his website at <http://www.johanmarais.co.za>



Johan Marais

- 5.3 Locate the table under the heading **Course Details**.
- 5.3.1 Change the width of the table, so that it extends across 70% of the window in your browser. (1)
- 5.3.2 Insert one additional row at the bottom of the table, and use it to add the following course details: (2)

Course Name	Date	Duration	Cost
Snake Handling	12 July	2 hrs	R550

- 5.4 Locate the table under the heading **On a Previous Course...**
- 5.4.1 Replace the text “(Insert image)” with the image **BrandonVisser.jpg** which you will find in your exam folder. (3)
- 5.4.2 Locate the text “Forest Cobra” under the heading **On a Previous Course...** Display this text in bold. (1)

Save and close the document **5\_WebsiteHome**.

Open the document **5\_WebsiteContent** in your HTML editing program and do the following:

- 5.5 Locate the numbered list under the heading **Content of Courses**. Convert the numbered list to a bulleted list. (1)
- 5.6 Locate the text “(Paste text here)” under the heading **First Aid (that could save your life!)**. Replace this text with all the text in the file **5\_FirstAid.txt**, which you will find in your exam folder. (2)
- 5.7 The hyperlink at the bottom of the page, “Click here to return to the Home Page”, is not working correctly. Correct the mistake, so that the hyperlink may enable the user to return to the home page. (1)

Save and close the document **5\_WebsiteContent**.

[17]

**TOTAL : 180**

## HTML Tag Sheet

Structural / Basic tags	
<body> </body>	Defines the body of web page
<body bgcolor="pink">	Sets the background color of web page
<body text="black">	Sets the colour of the body text
<head> </head>	Contains information about document
<html> </html>	Starts and end a web page
<title> </title>	Defines a title for the document
<!-- -->	Comment
Formatting Tags	
<p></p>	Creates a new paragraph
<p align="left">	Aligns a paragraph to the left (default), can also be right, or center
 	Inserts a line break
<ol></ol>	Creates a numbered list
<ul></ul>	Creates a bulleted list
<li></li>	Inserted before each list item, and adds a number or symbol depending upon the type of list selected
Text Tags	
<h1></h1>	Creates the largest heading
<h6></h6>	Creates the smallest heading
<b></b>	Creates bold text
<i></i>	Creates italic text
<font size="3"> </font>	Sets size of font, from 1 to 7
<font color="green"> </font>	Sets font color
<font face="Times New Roman"> </font>	Sets font type
Graphics Tags	
	Adds an image
	Aligns an image: can be left, right, center; bottom, top, middle
	Sets width of border around an image
	Sets the height and width of an image
	Displays alternative text when the mouse hovers over the image
<hr/>	Inserts a horizontal line
<hr size="3"/>	Sets size (height) of line
<hr width="80%"/>	Sets width of line, in percentage or absolute value
<hr color="Red"/>	Sets the colour of the line

<b>Links Tags</b>	
<code>&lt;a href="URL"&gt; link text &lt;/a&gt;</code>	Creates a hyperlink displaying the link text
<code>&lt;a href="URL"&gt; &lt;img src="name"&gt; &lt;/a&gt;</code>	Creates an image link
<code>&lt;a name="NAME"&gt; &lt;/a&gt;</code>	Creates a target location
<code>&lt;a href="#NAME"&gt; &lt;/a&gt;</code>	Links to a target location created somewhere else in the document
<b>Table Tags</b>	
<code>&lt;table&gt;&lt;/table&gt;</code>	Creates a table
<code>&lt;tr&gt;&lt;/tr&gt;</code>	Creates a row in a table
<code>&lt;td&gt;&lt;/td&gt;</code>	Creates a cell in a table
<code>&lt;th&gt;&lt;/th&gt;</code>	Creates a table header (a cell with common bold, centered text)
<code>&lt;table border="1"&gt;</code>	Sets the width of the border around the table cells
<code>&lt;table cellspacing="1"&gt;</code>	Sets the space between the table cells
<code>&lt;table cellpadding="1"&gt;</code>	Sets the space between a cell's border and its contents
<code>&lt;table width="50%"&gt;</code>	Sets width of table, in percentage or absolute value
<code>&lt;tr align="left"&gt;</code>	Sets alignment for cell(s) (left, can also be center, or right)
<code>&lt;tr valign="top"&gt;</code>	Sets vertical alignment for cell(s) (top, can also be middle, or bottom)
<code>&lt;td colspan="2"&gt;</code>	Sets number of columns a cell should span
<code>&lt;td rowspan="4"&gt;</code>	Sets number of rows a cell should span