basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL
SENIOR CERTIFICATE

GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P1

FEBRUARY/MARCH 2015

MARKS: 180

TIME: 3 hours

This question paper consists of 18 pages, an HTML tag sheet and a separate information sheet.

Please turn over

INSTRUCTIONS AND INFORMATION

1.   Owing to the nature of this three-hour examination, it is important to note that you will NOT be permitted to leave the examination room before the end of the examination period.

2.   Type your examination number in the header of EVERY document that you create or save.

3.   The invigilator will give you a disk containing all the files needed for the examination OR you will be told where the files can be found on the network or computer. If a disk has been issued to you, you must write your centre number and examination number on the disk. If you are working on the network, you must follow the instructions provided by the invigilator.

4.   A copy of the master files will be available from the invigilator. Should there be any problems with a file, you may request another copy from the invigilator.

5.   This question paper consists of SEVEN questions.

6.   Answer ALL the questions.

7.   Ensure that you save each document using the file name given in the question paper. Save your work at regular intervals as a precaution against possible power failures.

8.   Read through each question before answering or solving the problem. Do NOT do more than is required by the question.

9.   At the end of the examination you must hand in the disk given to you by the invigilator with ALL your answer files saved onto the disk, OR you should make sure that ALL the answer files are saved on the network/computer as explained to you by the invigilator/educator. Make absolutely sure that all files can be read. Do NOT save unnecessary files/folders and do NOT hand in duplicate answer files/folders.

10.   The information sheet that has been provided with the question paper **MUST BE COMPLETED AFTER THE THREE-HOUR EXAMINATION SESSION**. Hand it to the invigilator at the end of the examination.

11.   During the examination you may use the help functions of the programs which you are using. You may NOT use any other resource material.

12.   Unless instructed otherwise, you must use formulae and/or functions for ALL calculations in questions involving spreadsheets. Use absolute cell references only where necessary to ensure that formulae are correct when you copy them to other cells in a spreadsheet.

13.   If data is derived from a previous question that you could not answer, you should still proceed with the questions that follow.

14.   In all questions involving word processing, you should set the language to English (South Africa). The paper size is assumed to be A4 Portrait, unless stated otherwise.

15.   Use centimetres as the unit of measurement when answering this question paper.

16.   **Alternative instructions for candidates using LibreOffice are given in cases where they differ from the instructions for candidates using Microsoft Office.**

17.   Generally, one mark is allocated per action; therefore a two-mark question would usually require TWO actions, et cetera.

18.   The examination folder/data disk that you receive with this question paper contains the folders and files listed below. Ensure that you have all the files before you begin with this examination.

• 1Bullet_Kolpunt	Image file
• 1Energy_Energie	Word processing file
• 1Social_Sosiaal	Image file
• 2Back_Agter	Image file
• 2School_Skool	Word processing file
• 3Individ	Spreadsheet file
• 4Countries_Lande	Spreadsheet file
• 5Course_Kursus	Database file
• 6Save_Spaar	Image file
• 6Tips_Wenke	HTML file
• 7Act_Akt	Word processing file
• 7Temp	Spreadsheet file
• 7Video	Compressed/Zipped file

SCENARIO

The average person's lifestyle uses too many resources. If everyone in the world lived like the average person, we would need three planet Earths to sustain us all. Sustainable living is following a lifestyle that will use resources wisely as if we were going to live forever.

The school asked the Grade 12 learners to assist in a campaign to promote sustainable living.

QUESTION 1: WORD PROCESSING

A document was created to give background information on sustainable energy.

Open the **1Energy_Energie** word processing document and insert your examination number in the header.

1.1 This document has a cover page. Make the following changes to the cover page:

    1.1.1 Add any page border of your choice. (1)

    1.1.2 Ensure that the watermark that currently appears on all the pages in the document appears only on the cover page. (1)

1.2 Insert an automatic table of contents below the heading 'Table of Contents' as follows:

- Use the 'Title' style for the level 1 headings.

- Use the 'Heading 1' style for the level 2 headings.

- Use the 'Heading 2' style for the level 3 headings. (3)

1.3 Apply automatic page numbering to the document as follows:

- Display the page numbers in the page header.

- Start the page numbering from the second page of the document, numbering the pages from page 1 onwards.

    NOTE: No page number should appear on the first page. (3)

1.4 Locate the image on the page after the table of contents that shows the three parts of sustainability: 'Environmental', 'Economic' and 'Social'.

    Fill the 'Social' shape with the picture **1Social_Sosiaal** found in the data folder. (1)

1.5   Locate the text 'resources' in the paragraph under the image on the third page of the document.

      Create a hyperlink on this text that links to the heading 'Where does our energy come from?' in this document.   (2)

1.6   Locate the text below the heading 'The difference between sustainable and non-sustainable resource use'.

      Create a table using the tab-delimited text and the following instructions so that it resembles the example below:

- Convert the text to a table.

- Apply any table style/format to the table other than the existing style.

	Sustainable resource use	Non-sustainable resource use
People and the environment	Ecotourism, protecting scenery and wildlife	Large scale tourism, especially at mountain and coastal resorts
People and resources	Re-use, recycle and reduce, soil conservation, reforestation, organic farming, renewable energy use, clean drinking water	Continued use of fossils such as coal and oil, unnecessary use of minerals, deforestation, soil erosion, heavy fertilizer and agrichemical use, polluted drinking water
Socio-economic	Controlled urban growth	Rapid urbanization and loss of farmland

      (2)

1.7   Locate the text 'Insert Citation' below the heading 'Energy'.

      Insert a citation applying the APA style to this text using the following information for a book:

      SMART LIVING HANDBOOK
      2011   (3)

1.8   Locate the automatic caption 'Table 1' below the picture under the heading 'Energy' and do the following:

- Change this caption to a figure that displays 'Figure1: Electricity'.   (2)

1.9   Locate the bulleted list under the heading 'What can we do?'.

      Change the format of the bullets to the picture **1Bullet_Kolpunt** found in the data folder.   (2)

1.10   Create a new style named 'Energy'. Set the font size to 16 pt and the font colour to red.

      Locate the text 'Decommissioning' after the heading 'Nuclear power' and apply the 'Energy' style to the heading 'Decommissioning'.   (4)

1.11   The word 'sustainable' has been spelt incorrectly as 'sustainnable' in some places.

Replace all occurrences of the word 'sustainnable' with the correct spelling and highlight the corrected text.   (2)

1.12   Locate the heading on the second last page that starts with 'Strategies for …' and ends with '… in South Africa'. Change the setting of the third column of the table so that the widow/orphan setting is NOT applied.   (1)

1.13   Locate the Table of Figures/Illustration Index on the last page of this document.

Update the Table of Figures/Illustration Index to appear as indicated below.

TABLE OF FIGURES/ILLUSTRATION INDEX

(1)

Save and close the **1Energy_Energie** document.   **[28]**

QUESTION 2:　WORD PROCESSING

As part of the school's sustainability development programme, you were asked to create a poster and to complete a survey form on how to save electricity at school.

Open the **2School_Skool** word processing document and insert your examination number in the header.

2.1　　Change the document orientation of the first page only to landscape.

　　　　The orientation of the second page must remain portrait.　　　　(2)

2.2　　Change the top margin of the page border to 17 pt from the edge of the page.　　(2)

2.3　　Centre the heading 'Climate change and energy use'.　　(1)

2.4　　Place the paragraphs that start with 'Electricity at school ...' and end with '... used in schools' into columns as follows:

　　　　• Place the text in three columns.

　　　　• Change the space between the columns to 0.6 cm.

　　　　• Ensure that the three headings will always appear at the top of a column.　　(3)

2.5　　Edit the text box so that it appears similar to the one shown below.
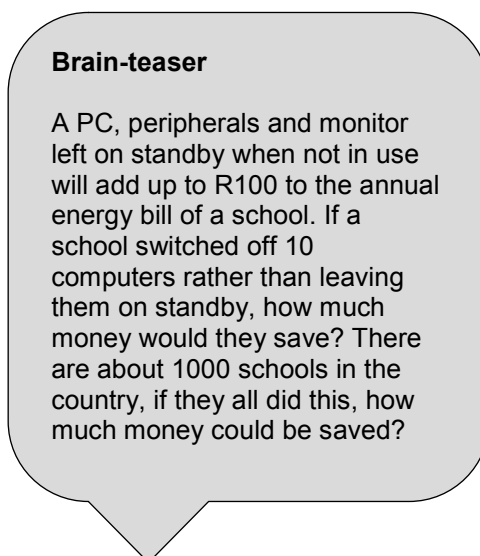
NOTE:
　　　　• All the text must be clearly visible and a similar shape must be used.
　　　　• Change the fill colour to grey.
　　　　• The font colour of the text in the shape may differ from the one shown above.　　(3)

2.6   Use the two pictures on the first page to create the picture below.

        NOTE: The pictures must be grouped.

(2)

2.7   Set the hyphenation of the whole document to automatic.   (1)

2.8   Locate the heading 'Electricity Usage: Survey Form' on the second page of the document and make the following changes:

        •   Remove the tab with the three leader tab lines.

        •   Change the text form field next to 'Age' to accept only numbers.

        •   Replace the placeholder next to the text 'How would you describe your usage of electricity?' with a drop-down list form field.

        •   Include the following items in the drop-down list:

                Moderate

                Mild

                Excessive   (4)

2.9   Insert a symbol in the last line of the document to appear as follows:

Use Electricity Sparingly ☺

        •   Microsoft Office: Wingdings, character code 75

        •   LibreOffice: Wingdings, character code U+F04B   (1)

2.10   Use the image **2Back_Agter** as a watermark and set the scaling to 120%.   (3)

Save and close the **2School_Skool** document.   **[22]**

QUESTION 3: SPREADSHEET

The statistical report for the carbon footprint of the average person in the world is stored in the **3Individ** spreadsheet.

Open the **3Individ** spreadsheet and work in the **Main_Hoof** worksheet. Insert your examination number in the header of the document.

3.1   A value, attempting to display the current date, appears in **cell B3**.

       Replace this value with a function that will automatically display the current date.   (1)

3.2   The report will expire in two years and three months from the current date. Add a calculation in **cell B4** to automatically determine the expiry date of the report.   (4)

3.3   Use suitable text functions to create a code in **cell B7**.

       The code is created by combining the following:

- First three letters of the name of the item in **column A**

       followed by the:

- Footprint index in **column J**

       Example: The code for 'Public Services' will be Pub9.   (4)

3.4   Enter a function in **cell C19** to display the most frequently occurring percentage for all the years from 1990 to 2014.   (1)

3.5   Use a spreadsheet feature to force the user to enter a whole number that cannot be greater than 100 in **column I**. Add a suitable error message that the user will receive if invalid data is entered.

       HINT: Use data validation.   (4)

3.6   Change the page setup as follows:

- Set the **range A1:J19** as the print area.

- Ensure that gridlines will be printed if the worksheet is printed.

       NOTE: Do NOT print.   (2)

3.7   Copy the **range A14:I16** on the **Main_Hoof** worksheet to the **Transp** worksheet starting at **cell A1**. The copied data must appear similar to the table below.

Public transport	Holiday transport	Private transport
3%	6%	10%
3%	7%	10%
3%	7%	6%
3%	7%	4%
3%	7%	2%
3%	6%	2%
2%	6%	2%

(2)

Save and close the **3Individ** spreadsheet.   **[18]**

QUESTION 4: SPREADSHEET

The **4Countries_Lande** spreadsheet contains the carbon footprints of countries.

Open the **4Countries_Lande** spreadsheet and work in the **Carbon_Koolstof** worksheet. Insert your examination number in the header of the document.

4.1   Change the tab colour of the **Carbon_Koolstof** worksheet to any colour other than the original.   (1)

4.2   Insert a comment in **cell A1** that reads 'Carbon released'.   (2)

4.3   The capital of 'South Korea' is needed in **cell C10**.

The names of the countries appear in **column B** and the lookup data is provided in the **Capital_Hoofstad** worksheet of the spreadsheet.

Add a VLOOKUP function in **cell C10** to display the capital of 'South Korea'.

NOTE: The capital of South Korea is Seoul.   (4)

4.4   Insert a function in **cell F22** to determine the total population of all the countries on the continents 'North America' and 'South America'.   (5)

4.5   The CO_2 emissions in **column G** and the average CO_2 emissions in **cell F24** are used to determine the carbon footprint of a country as follows:

CO_2 emissions and average CO_2 emissions	Carbon footprint
CO_2 emissions greater than or equal to the average CO_2 emissions in **cell F24**	High risk
CO_2 emissions smaller than the average CO_2 emissions in **cell F24**	Low risk

Add a function in **cell H3** to determine the carbon footprint for 'China'.

Copy the function you added in **cell H3** to **cells H4:H21**. Ensure that it works correctly.   (5)

4.6   The average emissions per person per country appear in **column I**.

- Insert a function/formula in **cell J3** to determine the percentage that China's emission per person represents against the <u>total</u> emissions per person for all the countries.

- Format **cell J3** to display the answer with four decimal places.   (5)

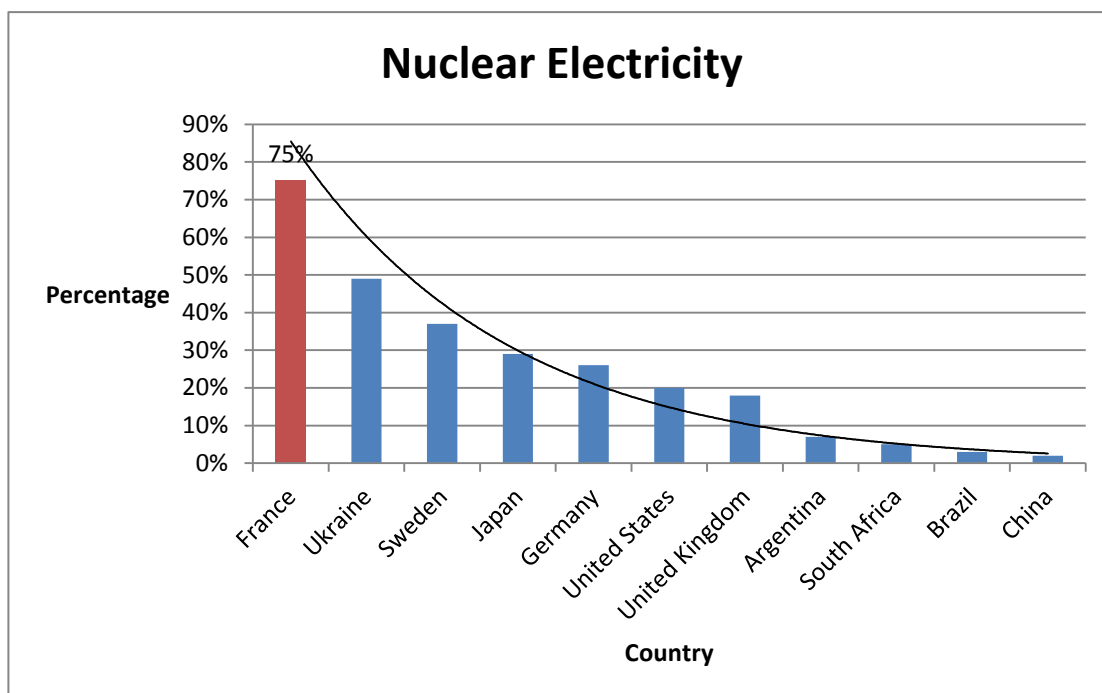4.7   Emissions tax for each country will be calculated as follows:

$$\text{Emissions tax} = \frac{\text{population}}{\text{area (in km}^2)} * (\text{emissions per person})^5$$

Use this information to insert a formula in **cell F26** to calculate the emissions tax for China.   (4)

Work in the **Nuclear_Kernkrag** worksheet.

4.8   Change the graph/chart to appear as follows:

NOTE:
- Insert the horizontal axis title 'Country'.

- Fill the highest column with a colour different to the other columns.

- Add a data label only for the first column (France).

- Insert an exponential trend line.

- Change the vertical axis scale to automatically display the maximum value of the scale.   (5)

Save and close the **4Countries_Lande** spreadsheet.   **[31]**

QUESTION 5: DATABASE

A database was created for learners who are interested in a career in the sustainability field.

Open the **5Course_Kursus** database.

5.1   Edit the **Cur_Kur** table as follows:

    5.1.1
- Change the *Type_Tipe* field by adding a combo box so that the user can choose between the two options, 'Sust-Related' and 'Sust-Focused'.

- Change the field size of the *Dept_Dept* field to 15.

- Set the field properties of the *CourseID_KursusID* field so that the user is forced to insert data in this field AND to accept no duplicates. Do NOT change the primary key.

  NOTE: Ignore warning messages that may appear.

- Create an input mask on the *CourseID_KursusID* field to ensure that the user inserts a code made up as follows:

  o   Three compulsory capital letters
  o   One optional capital letter
  o   Three compulsory digits

  Example: DIET303 or PPS543 can be entered.

- Change the format of the data in the *Cost_Koste* field to currency in rand.

- Change the field properties of the *Avail_Beskik* field to display Yes/No instead of the check boxes for True/False.   (12)

    5.1.2   Format the table as follows:

- Remove all the gridlines.

- Change the background colour of the table to grey.   (2)

    Save and close the **Cur_Kur** table.

5.2   Export the **Course_Kursus** table and save it as a file named **5Exp_Uit**, which can open in a word processing program.   (2)

5.3   Create a query called **qry5_3** based on the **Cur_Kur** table as follows:

- Display only the *Title_Titel*, *Cost_Koste* and *VATInc* fields (see next bullet).

- Insert a calculated field called *VATInc* which will calculate the cost of the course if VAT (14%) has been added to the cost.

    Save and close the **qry5_3** query.   (5)

5.4   Open the **qry5_4** query.

- Display only the courses that contain the word 'sustainable' anywhere in the title AND that have 60 or more students but fewer than 100 students.

Save and close the **qry5_4** query.   (5)

5.5   Create a query called **qry5_5** based on the **Cur_Kur** table.

The query must display only the information, in the same order, as shown in the example below.

Dept_Dept	Cost_Koste	Title_Titel	Avail_Beskik
ACCT	6061	Contemporary Acct Issues	Yes
ACCT	5242	International Taxation	Yes
ACCT	2543	Managerial Accounting	Yes
ACCT	1343	Managerial Acct Concepts	Yes
ACCT	9980	State and Local Taxation	Yes

NOTE: The *Avail_Beskik* data shown above may differ in format from yours.

Save and close the **qry5_5** query.   (4)

5.6   Create a form called **frm5_6** based on **Cur_Kur** table.

- Insert only the fields *CourseID_KursusID*, *Title_Titel*, *Avail_Beskik* in the form.
- Change the content of the label in the form header to 'Courses'.
- Insert the date as a field in the footer of the form.

Save and close the **frm5_6** form.   (3)

5.7   A report called **rpt5_7** has been created.

- Base the report on the **qry5_7** query.
- Group the records in the report according to the *Avail_Beskik* field.
- Ensure that a group is not split over two pages.
- Insert a function to determine how many courses are available and how many courses are not available.
- Add a suitable label for the function.

Save and close the **rpt5_7** report.   (7)

Close the **5Course_Kursus** database.   **[40]**

QUESTION 6: WEB DESIGN (HTML)

A web page was created to give tips on how to save electricity.

Open the incomplete **6Tips_Wenke** web page in a web browser and also in a text editor.

NOTE:
- Question numbers are inserted as comments in the coding as guidelines to show approximately where the answer(s) should be inserted.

- An HTML tag sheet has been attached for reference.

Your final web page should look like the example below.

6.1   Add HTML code so that the text 'Energy Tips' appear in the browser tab.   (2)

6.2   Change the background colour of the web page to white.   (1)

6.3   Format the text 'Energy Saving Tips' so that it appears as a level 1 heading and is horizontally centred.   (2)

6.4   Change the size of the horizontal line to 10.   (1)

6.5   The webpage includes a table containing two rows and two columns. Extend the table by adding a new row above the current first row.

- Place the text 'Tip 1' in the first cell of the new row.

- Place the text 'Leaving a computer monitor on overnight wastes as much energy as making 800 A4 photocopies!' in the second cell of the new row.

- Change the font of the entire table to Arial.   (4)

6.6   Insert the **6Save_Spaar** image below the table. Set the height and width of the image to 200.   (4)

6.7   Edit the unordered list that appears on the web page as follows:

- Change the list to an ordered list.

- Change the font size of all the items in the list to 6.   (2)

6.8   Add the text 'Link to Google' between the paragraph tags at the bottom of the web page and link it to the website 'www.google.com'.   (4)

Save and close the **6Tips_Wenke** web page.   **[20]**

QUESTION 7: GENERAL

You were asked to design a sheet to inform learners about climate change and how it affects temperatures.

7.1   Extract the file from the **7Video** compressed file to your examination folder.   (1)

7.2   Open the **7Act_Akt** word processing document.

    7.2.1   Locate the text 'Temperatures' and add a cross-reference to the bookmark called Graph.   (3)

    7.2.2   An equation showing electricity consumption appears at the end of the first page. A part of the equation has been omitted.

$$\left(\frac{ElectricityConsumption\left(\dfrac{Kwh}{day}\right)}{Use\left(Suite/Individual\right)}\right) \times 365days \times \left(1.486\frac{lbsCO_2}{Kwh}\right) \div 2204.6 = CO_2\,Emissions(tonnes)$$

        Refer to the equation above and add the part that was omitted from the equation.   (2)

    7.2.3   Locate the organogram on page 2.

        Add a shape for 'Human Resources' in the diagram as shown below.
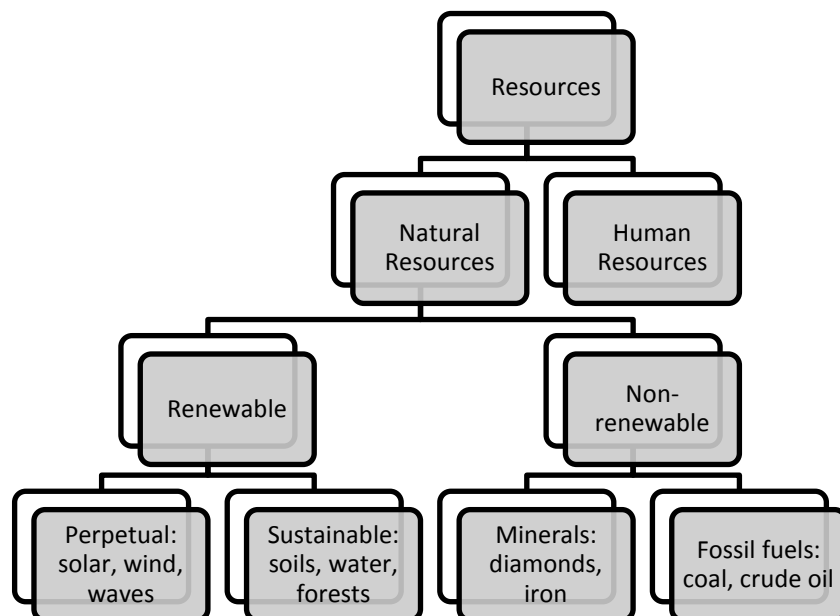
        (2)

7.3   Open the **7Temp** spreadsheet.

      A chart/graph was created in the spreadsheet **7Temp**. Edit the chart/graph as follows:

- Sort the data in the spreadsheet according to years in ascending order.

- Some of the rows have duplicate values. Remove the rows with duplicate values.

- Use conditional formatting to display the top three temperatures with any border of your choice.

- Insert the chart/graph in the third column of the table in the **7Act_Akt** document. Reduce the size of the chart/graph to fit in the table cell.

      NOTE: The chart/graph in the word processing document does not have to update automatically.   (6)

      Save and close the **7Temp** spreadsheet.

7.4   Continue working on the **7Act_Akt** document.

      Use a function to calculate the average temperature in the last row of the table.   (2)

7.5   Change the text form field next to the text 'Completed by' as follows:

- Set the text form field property to accept no more than 30 characters.

- Add default text that reads 'Add your name here'.   (2)

7.6   Change the author property of the document to your examination number.

      Insert the author field to display in capital letters next to the text 'Created by:'.   (3)

      Save and close the **7Act_Akt** document.   **[21]**

                                          TOTAL: **180**

HTML TAG SHEET

Basic Tags	
Tag	**Description**
`<body></body>`	Defines the body of the web page
`<body bg color="pink">`	Sets the background colour of the web page
`<body text="black">`	Sets the colour of the body text
`<head></head>`	Contains information about the document
`<html></html>`	Creates an HTML document – starts and ends a web page
`<title></title>`	Defines a title for the document
`<!-- -->`	Comment

Text Tags	
Tag	**Description**
`<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 colour
`<font face="Times New Roman"></font>`	Sets font type

Links Tags	
Tag	**Description**
`<a href="URL"></a>`	Creates a hyperlink
`<a href="URL"><img src="URL"></a>`	Creates an image link
`<a name="NAME"></a>`	Creates a target location
`<a href="#NAME"></a>`	Links to a target location created somewhere else in the document

Formatting Tags	
Tag	**Description**
`<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
`<ol type="A","a", "I","i","1"></ol>`	Defines the type of numbering used
`<ul></ul>`	Creates a bulleted list
`<ul type="disc", "square","circle"></ul>`	Defines the type of bullets used

Formatting Tags continued	
Tag	**Description**
`<li></li>`	Inserted before each list item, and adds a number or symbol depending upon the type of list selected
`<img src="name">`	Adds an image
`<img src="name" align="left">`	Aligns an image: can also be "right", "center"; "bottom", "top", "middle"
`<img src="name" border="1">`	Sets size of border around an image
`<img src="name" width="200" height="200">`	Sets the height and width of an image
`<img src="name" alt="alternative text">`	Displays alternative text when the mouse hovers over the image or when the image is not found
`<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="ff0000"/>`	Sets the colour of the line

Table Tags	
Tag	**Description**
`<table></table>`	Creates a table
`<tr></tr>`	Creates a row in a table
`<td></td>`	Creates a cell in a table
`<th></th>`	Creates a table header (a cell with bold, centred text)
`<table width="50">`	Sets the width of the table
`<table border="1">`	Sets the width of the border around the table cells
`<table cellspacing="1">`	Sets the space between the table cells
`<table cellpadding="1">`	Sets the space between a cell border and its contents
`<tr align="left">`	Sets the alignment for cell(s) (can also be "center" or "right")
`<tr valign="top">`	Sets the vertical alignment for cell(s) (can also be "middle" or "bottom")
`<td colspan="2">`	Sets the number of columns a cell should span
`<td rowspan="4">`	Sets the number of rows a cell should span

COMPUTER APPLICATIONS TECHNOLOGY P1 – FEBRUARY/MARCH 2015

INFORMATION SHEET *(to be completed by the candidate AFTER the 3-hour session)*

| 180 |

CENTRE NUMBER _____

EXAMINATION NUMBER _____

WORK STATION NUMBER _____

SUITE USED (Mark appropriate box with a cross (**X**))	LibreOffice 4.2 or higher	Microsoft Office 2007	Microsoft Office 2010	Microsoft Office 2013

FOLDER NAME _____

Candidate to enter the file name(s) used for each answer. Tick if saved and done.

Question Number	File name	Saved (✓)	Done (✓)	Maximum Mark	Mark Achieved	Marker Initial/ Code
1				**28**		
2				**22**		
3				**18**		
4				**31**		
5				**40**		
6				**20**		
7				**21**		
TOTAL				**180**		

Comment *(for office/marker use only)*

_____

_____