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TOTAL MARKS

NATIONAL SENIOR CERTIFICATE EXAMINATION
MAY 2022

COMPUTER APPLICATIONS TECHNOLOGY: PAPER II

EXAMINATION NUMBER

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Time: 3 hours 150 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of 40 pages. Please check that your question paper is complete.
2. The paper is divided into Section A (25 marks), Section B (75 marks) and Section C (50 marks).
3. **Answer ALL the questions on this question paper and hand it in at the end of the examination. Remember to write your examination number in the space provided.**
4. Non-programmable calculators may be used.
5. It is in your own interest to write legibly and to present your work neatly.
6. Read the questions carefully. Take note of the action verbs in the questions, i.e., explain, name, select, discuss, identify, etc. and then answer accordingly.
7. Give your answers in general terms. Use brand names only when asked, e.g., use 'word processor' rather than 'Microsoft Word' or 'WordPerfect'.
8. In general, a mark is allocated per fact. Therefore, a two-mark question would require two facts, and so on. One-word answers will not necessarily give you the mark. Writing in full sentences is required.
9. **DO NOT USE CORRECTING FLUID.**
10. TWO blank pages (pages 39 and 40) are included at the end of the question paper. If you run out of space for a question, use these pages. Clearly indicate the number of your answer should you use this extra space.

FOR OFFICIAL USE ONLY:

MARKER TO ENTER MARKS BELOW									
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	TOTAL
15	10	20	19	10	12	14	26	24	/150
MARKER/MODERATOR TO INITIAL BELOW									

SECTION A

QUESTION 1

1.1 Choose the word(s) in Column B that **BEST** match(es) the description in Column A. Write down **ONLY** the letter of your choice next to each question number in the space provided below, for example 1.1.6 M.

	Column A	Column B
1.1.1	Pressing this combination of keys is one of the ways of accessing the window to the Task Manager on your computer.	A. e-mail signature
1.1.2	An option in an e-mail program that automatically moves e-mail messages older than six months to a special folder.	B. OneNote
1.1.3	An application in the MS Office suite that is ideal for storing information downloaded from the web or for taking notes in a meeting.	C. Notepad++
1.1.4	An option that can be activated in an e-mail program to automatically sort incoming messages into different folders.	D. shareware
1.1.5	Norton and Bitdefender are known as ... types of antivirus software.	E. Ctrl+Shift+T
		F. auto-archiving
		G. freeware
		H. Ctrl+Alt+Del
		I. e-mail rule
		J. Outlook
		K. standalone
		L. Microsoft Publisher

WRITE YOUR ANSWER HERE

1.1.1	
1.1.2	
1.1.3	
1.1.4	
1.1.5	

(1)
(1)
(1)
(1)
(1)

1.2 Select the **MOST** appropriate answer to each question. Write down **ONLY** the letter of your choice next to each question number in the space provided, for example 1.2.11 D.

1.2.1 Which one of the following actions **WILL NOT** protect data in a spreadsheet from unauthorised access?

- A Changing the colour of the font to transparent.
- B Restricting permissions in a workbook.
- C Encrypting the spreadsheet file.
- D Restricting permissions of the spreadsheet file.

1.2.1	
-------	--

(1)

1.2.2 An e-mail with an attachment that has a(n) ... file extension could mean that the file has a virus.

- A *.xlsx
- B *.docx
- C *.exe
- D *.pdf

1.2.2	
-------	--

(1)

1.2.3 Which of the following functions result in an answer rounded down to the nearest whole number?

- A =ROUND(5.58,1)
- B =AVERAGE(C1:C6)
- C =INT(24.7)
- D =TRUNC(21.73,1)

1.2.3	
-------	--

(1)

1.2.4 Identify the statement that is **NOT** correct.

- A A network is a collection of connected computers.
- B A LAN can be used within one household.
- C Ethernet refers to wireless network technology only.
- D A WAN connects computers across cities, countries and continents with each other.

1.2.4	
-------	--

(1)

1.2.5 The system clock ...

- A determines the quality of the graphical user interface.
- B is the electronic circuit in a computer that generates a steady stream of digital signals that synchronise every operation.
- C interprets and executes instructions to complete a task.
- D is a circuit inside a computer that keeps the current date and time.

1.2.5	
-------	--

(1)

1.2.6 Google is an example of ...

- A a web browser.
- B a website.
- C social engineering.
- D a search engine.

1.2.6	
-------	--

(1)

1.2.7 Which statement best describes the acronym **www**?

- A A collection of linked computers.
- B A collection of documents or websites.
- C A system used for sending e-mail.
- D The Internet.

1.2.7	
-------	--

(1)

1.2.8 ... is a broadband access technology that allows for high-speed internet connection from a private household.

- A LTE
- B FTTH
- C WiMAX
- D ADSL

1.2.8	
-------	--

(1)

1.2.9 ... is a system or technology that secures a network, shielding it from access by unauthorised users.

- A Firewire
- B An app
- C A firewall
- D Encryption

1.2.9	
-------	--

(1)

1.2.10 GIGO is as a result of ...

- A poor procedures for capturing data.
- B bad programming.
- C a breakdown in user trust.
- D poor training in how to use a specific system.

1.2.10	
--------	--

(1)
[15]

MARKER'S USE ONLY:	Total mark Q1	
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QUESTION 2

2.1 Choose the **MOST** appropriate term/function (underlined and between brackets) for each statement that follows. Write **ONLY** the term/function of your choice next to each statement number in the space provided.

2.1.1 A (query/form) is a database feature that allows the user to extract specific information that matches a value stored in a specific field.

2.1.1	
-------	--

(1)

2.1.2 The (history/bookmark) is a feature of a web browser that lets you save the address of a web page so that you can revisit it later.

2.1.2	
-------	--

(1)

2.1.3 An accelerometer is a device that is built into (portable/desktop) computing devices.

2.1.3	
-------	--

(1)

2.1.4 (Defragmentation/Disk Clean-up) of the hard drive will make more space available.

2.1.4	
-------	--

(1)

2.1.5 (Ransomware/Cyber bullying) is a form of online harassment that might deter a user from using a chat application or service as it makes them feel uncomfortable.

2.1.5	
-------	--

(1)

2.1.6 The following sentence 'It was a nice party' was typed using a word processing program. The (spell check/thesaurus) feature of the program can be used to find a synonym for the word 'nice'.

2.1.6	
-------	--

(1)

2.2 Give an appropriate explanation that **BEST** describes each of the following terms:

2.2.1 Mobile office

(1)

2.2.2 Disk scanner

(1)

2.2.3 Intranet

(1)

2.2.4 Hotspot

(1)
[10]


25 marks

MARKER'S USE ONLY:	Total mark Q2	
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SECTION B

QUESTION 3 SYSTEM TECHNOLOGIES

3.1 Complete the tables below by identifying the objects/items in the images and stating their main function.

<p>3.1.1</p>	<div style="text-align: center;">  <p>[<https://www.anandtech.com/show/456>]</p> </div>
<p>Name of hardware</p>	<hr/> <hr/> <div style="text-align: right;">(1)</div>
<p>Main function</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <div style="text-align: right;">(1)</div>

3.1.3



[<<https://www.oasistechnologies.co.za/FindCategory.aspx?SelectedGroup>>]

<p>Name of hardware</p>	<hr/> <hr/> <p style="text-align: right;">(1)</p>
<p>Main function</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <p style="text-align: right;">(1)</p>

3.1.4



[<<https://onlyonline.co.za/product/>>]

<p>Name of hardware</p>	<hr/> <hr/> <p style="text-align: right;">(1)</p>
<p>Main function</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <p style="text-align: right;">(1)</p>

3.2 You are working for a small business and notice that one of your colleagues shuts down his/her computer by pressing and holding the power button (forced shutdown), instead of using the correct way to shut the computer down. Give **TWO** reasons why it is **NOT** a good idea to routinely do a forced shutdown on a computer.

Reason 1: _____

Reason 2: _____

(2)

3.3 When a computer has problems with its Windows operating system, especially if the computer does not shut down correctly, what **TWO** solutions can you suggest to fix the system?

Solution 1: _____

Solution 2: _____

(2)

3.4 When working with a document, differentiate between the *Save* and *Save As* options.

(2)

3.5 Thando deleted an entire folder containing important documents from the computer's hard drive. He is not familiar with the use of the Recycle Bin and seeks your advice.

3.5.1 (a) Define the term *Recycle Bin*.

(1)

(b) If the folder was saved on a flash drive, explain to Thando why the folder will be lost forever.

(1)

3.5.2 When Thando inserted an old flash drive into his computer, a message popped up asking if he would like to format the drive. Explain to him what will happen if he formats the flash drive.

(2)

3.5.3 It is recommended that Thando empties the Recycle Bin on a regular basis. Windows 10 has an option that you can use in settings to empty the Recycle Bin on a daily, weekly or monthly basis. Why should Thando consider implementing this recommendation?

(1)

3.5.4 Thando wants to save files on a flash drive. The flash drive is quite full and there is not much space left on it to save more files. How will he be able to save the new files and keep his old files on the flash drive?

(1)
[20]

MARKER'S USE ONLY:	Total mark Q3	
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QUESTION 4 INTERNET AND NETWORK TECHNOLOGIES

4.1 A tertiary college needs to provide its students with a connection to the Internet. Give **ONE** reason why the college should choose a broadband connection instead of a dial-up modem connection.

(1)

4.2 All students at the college use laptop computers that can be connected to the college network using a wireless connection. Give **TWO** advantages and **TWO** disadvantages of wireless connections.

Advantage 1: _____

Advantage 2: _____

(2)

Disadvantage 1: _____

Disadvantage 2: _____

(2)

4.3 The college needs to communicate with their students on a regular basis. In each of the following cases, suggest the best electronic communication method. (Brand names may be used when answering this question.)

4.3.1 Basic and administrative correspondence with account holder.

(1)

4.3.2 Sending an urgent message to all students that a test has been cancelled.

(1)

4.3.3 Telling students about the new textbooks that will be available next month.

_____ (1)

4.3.4 Setting up a supporters' page for students.

_____ (1)

4.4 The college must ensure that when students are on campus, they are not able to access non-educational websites. Give **THREE** methods lecturers can use to ensure that their students are safe while 'surfing' the web.

Method 1: _____

Method 2: _____

Method 3: _____

(3)

4.5 The college staff suggested that they should make use of a VPN for all the staff.

4.5.1 What is a VPN? (Do not simply expand the acronym.)

_____ (2)

4.5.2 Give **TWO** examples of how a VPN would be useful for the staff.

Example 1: _____

Example 2: _____

(2)

4.5.3 The college management was concerned about added costs. Will they need any special hardware other than the network connection for the VPN?

(1)

4.6 When setting up a network, the college technician has to know the different protocols available for data transfer.

Briefly explain what is meant by the term *protocols* and give **ONE** example.

Explanation: _____

(1)

Example: _____
(1)
[19]

MARKER'S USE ONLY:	Total mark Q4	
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QUESTION 5 INFORMATION MANAGEMENT

Life Healthcare

Our Hospitals

Life, health and care are enshrined in everything we do. We carry this emphasis through in our dedication to wellbeing and quality of life, clinical excellence in world-class facilities, quality service, respect and a spirit of giving to those entrusted to our care. With life at the core of everything we do, the critical components of health and care hold everything together. Our purpose is making life better. And we fulfil that purpose by means of our compassionate and patient-centric approach.

[<<https://www.lifehealthcare.co.ca/about-us/a-closer-look/>>]

5.1 Hospitals must gather information about and keep records of patients. They must also administer daily requests made by nurses, doctors and medical aid companies.

5.1.1 The hospital uses a form created with a database. When a patient's data is captured by the receptionist it is important that no errors are made. Suggest **TWO** types of restrictions that will ensure that only data that meet certain criteria will be accepted when the data is captured.

(2)

5.1.2 When the receptionist captures the patient's data, it is crucial to confirm that all personal data is correct. Identify **TWO** data items typically required before admission to a hospital.

(2)

5.2 The hospital manager would like to get feedback on the quality of service that the hospital staff offer. He asks one of the hospital secretaries to capture all the completed feedback forms in an Excel spreadsheet.

Using the headings given below, explain the process that must be followed to ensure that useful information is obtained from the completed feedback forms.

Input: _____

Processing: _____

Output: _____

(3)

5.3 Explain what data encryption is and why a hospital should consider encrypting their data.

Explanation: _____

Reason for encrypting data: _____

(2)

5.4 State **ONE** general feature of spreadsheets that makes them suitable for data analysis.

(1)

[10]

MARKER'S USE ONLY:	Total mark Q5	
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QUESTION 6 SOCIAL IMPLICATIONS

Technology has had a profound impact on what it means to be social. Society is likely on the brink of a social revolution during which it will be important to redefine socially appropriate and acceptable behaviours (about digital or virtual interaction), as well as inclusivity of all who need to use technology.

6.1 *Keylogger* software forms part of a larger group of dangerous, unwanted software called *spyware*.

6.1.1 Briefly explain what *keylogger* software does on a computer.

(1)

6.1.2 Suggest **TWO** ways in which you can prevent your computer from becoming infected with *spyware*.

Suggestion 1: _____

Suggestion 2: _____

(2)

6.2 Technology can bring different people and cultures together. How will computer technology have a beneficial effect on cultures and languages?

(1)

6.3 Today many people are part of the 'Information Age' and they communicate daily using e-mail. However, there are some people who display unacceptable behaviours that might include sending hoax messages. Give **TWO** indications that might suggest that an e-mail is a hoax.

(2)

6.4 *Botnet* is a term commonly associated with cybercrime. Define the term *botnet* and explain how it works.

Definition: _____

How does it work? _____

(2)

6.5 State **TWO** types of acceptable behaviour that you need to consider when you connect to the internet with your own device using a friend's access point.

(2)

6.6 Explain why a mobile computing device does not require a UPS.

(2)
[12]

MARKER'S USE ONLY:	Total mark Q6	
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QUESTION 7 SOLUTION DEVELOPMENT

Examine the following analysis of the results of a certain test captured in a spreadsheet, and then answer the questions that follow:

	A	B	C	D	E	F
1			Number of questions	50		
2	Surname, Name	Class	Questions answered	Questions correct	%	
3	Potter, Harry	A	50	40	80.0%	
4	Ford, Henry	B	30	15	#VALUE!	
5	Du Plessis, Juanita	A	38	19	47.5%	
6	Moore, Demi	C	45	36	240.0%	
7	Dion, Celine	B	35	30	157.9%	
8	Hendricks, Cornel	A	35	30	83.3%	

7.1 The formula in cell **E3** to calculate the percentage of questions answered correctly out of the total number of questions (given in cell **D1**) is: = **D3 / D1**. This formula works correctly in cell **E3** but gives incorrect results when copied down to the cells below (**E4:E8**).

Explain why this happens and how the problem can be fixed.

Problem: _____

Solution: _____

(2)

7.2 The number of questions actually answered by the students is stored in column C.

Write down the formula needed in cell F3 to calculate the percentage of questions that the student Harry Potter answered correctly, out of the total number of questions that he answered. Assume that cell F3 has already been formatted correctly as a percentage.

(2)

7.3 The current design of the spreadsheet could cause a problem if the user wants to use the data in a mail merge and to address the students by their first names (column A).

Briefly explain how the spreadsheet could be redesigned to avoid the problem.

(1)

7.4 The teacher wants to determine how many students wrote the test. He used the formula **=COUNT(A3:A8)** in cell F1.

Write down the result that would appear in cell F1.

(1)

7.5 The use of the ALT attribute in HTML code will be beneficial for both sighted and partially sighted/blind people. For each of the groups give **ONE** reason why this will be the case.

Sighted people: _____

Partially sighted/blind people: _____

(2)

7.6 An Access query in Design View is shown below.

The query is supposed to display the surnames of people whose surnames start with the letter 'D' AND who do NOT have a value entered in the *ID_Number* field. Unfortunately, when run, the query does not produce the expected result.

List **FOUR** changes that must be made to this query before it can be used to display the correct information. (It is not necessary to redraw the diagram.)

Field:	[Surname]	[ID_Number]
Table:	Table1	Table1
Sort:		
Show:	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:	Like "D"	
or:		Is Not Null

Change 1: _____

Change 2: _____

Change 3: _____

Change 4: _____

(4)

7.7 Give **ONE** advantage, when using the Track Changes feature of Word, of showing the revisions in Balloons rather than in line.

(1)

7.8 Why would one typically insert the name of a document as a *field* in that document, rather than as *normal* text?

(1)

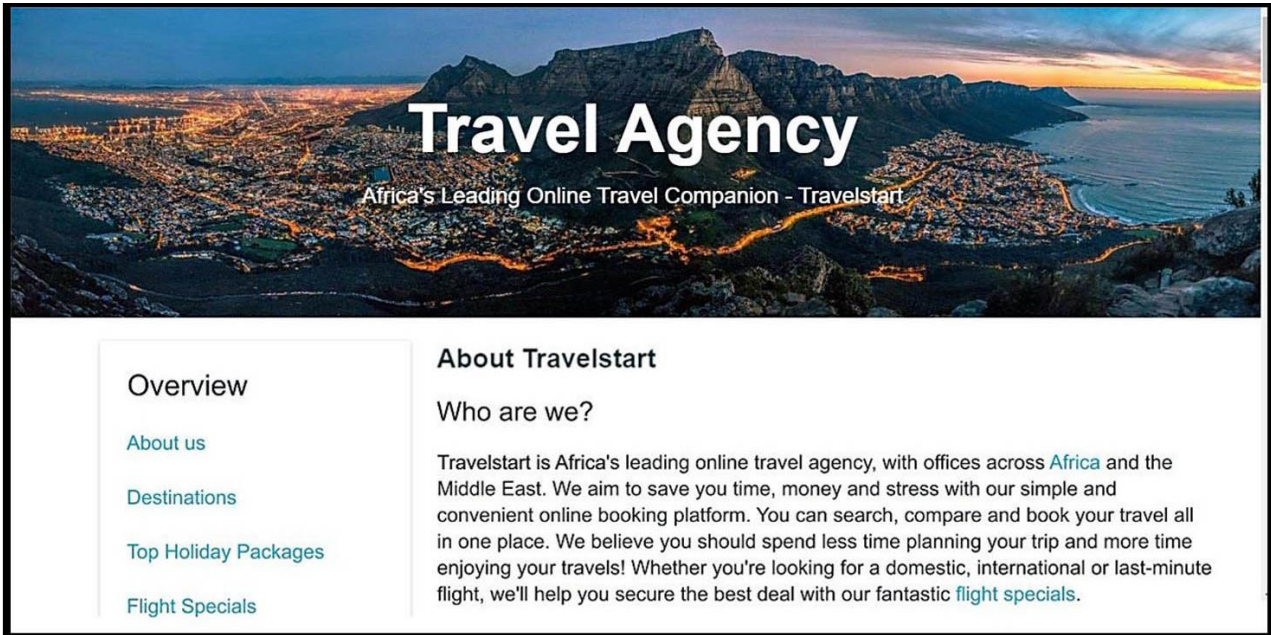
[14]

MARKER'S USE ONLY:	Total mark Q7	
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75 marks

SECTION C

QUESTION 8 INTEGRATED SCENARIO



[<<https://www.travelstart.co.za/lp/travel-agency>>]

Figure 1

Travelstart travel agency would like to implement technology to ensure the smooth running of their bookings. They also want their business to grow and to be able to compete with other travel agencies.

8.1 To ensure that the travel agency can locate the best possible tourist attractions for their customers by making use of technology, it was recommended that the agency purchase a GPS device for the business.

8.1.1 Give **TWO** reasons why it is better to use a GPS device rather than an old-fashioned printed map when you travel or search for a given location.

Reason 1: _____

Reason 2: _____

(2)

8.1.2 It was suggested that the travel agency make use of portable devices such as smartphones that support geotagging.

What is meant by *geotagging*?

(2)

8.1.3 State **TWO** advantages of using geotagging.

Advantage 1: _____

Advantage 2: _____

(2)

Dell Inspiron 5593 i7 1065G7 16GB 256GB SSD 4GB Graphics Notebook
Brand: DELL Product Code: 000000000010123301

Save **R3,000**

Online Only

Product Features

- Windows 10 Home
- 15.6-inch
- 16GB RAM & 256GB NVMe SSD
- NVIDIA GeForce Mx230 with 4GB GDDR5
- 10th Gen Intel Core i7 1065G7 Processor
- 3-Cell Battery, 42 Whr (Integrated)
- Fingerprint Reader Security
- 3 Year Warranty (Upon Registration)



[<<https://www.incredible.co.za/dell-inspiron-5593-i7-1065g7-16gb-256gb-ssd-4gb-graphics-notebook>>]

Figure 2

8.2 The travel agency needs to ensure that the consultants have devices that are up to date with the latest technology. For this reason, they need to consider a notebook.

8.2.1 Differentiate between a laptop and a notebook.

(2)

8.2.2 Identify what the 15.6-inch feature in the advert is referring to.

(1)

8.2.3 What hardware device can be connected to the computer when additional USB ports are needed?

(1)

8.2.4 Explain what is meant by the term *Fingerprint Reader Security* **AND** why this is a more secure way to access the notebook.

(2)

8.2.5 Identify the type of software that is represented by Windows 10 Home.

(1)

8.3 The travel agency also needs to purchase a printer. The following specifications were given with regard to a printer and the consultant had a few questions about the specifications.

HP DeskJet 3835. Print technology: Thermal Inkjet, Printing: Colour printing, Maximum resolution: 4800 × 1200 DPI, Print speed (colour, normal quality, A4/US Letter): 6 ppm. Copying: Colour copying, Maximum copy resolution: 600 × 300 DPI. Scanning: Colour scanning, Optical scanning resolution: 1200 × 1200 DPI. Faxing: Colour faxing. Maximum ISO A-series paper size: A4. Wi-Fi. Product colour: Black

[<<https://www.chafrica.co.za/products/hp-deskjet-ia-3835-all-in-one-printer/hp-deskjet-ia-3835-all-in-one-printer>>]

8.3.1 Which specification refers to the printing speed?

(1)

8.3.2 When a consultant tried to install a printer on his computer, a message appeared that asked him to load a device driver.

(a) Explain what a device driver is.

(2)

(b) Recommend **TWO** ways of finding device drivers for the printer.

Recommendation 1: _____

Recommendation 2: _____

(2)

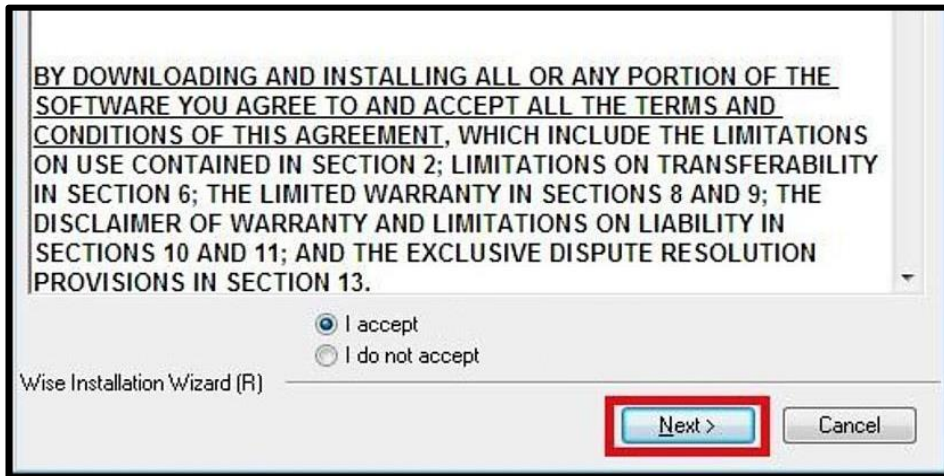
8.3.3 List **TWO** of the benefits of having a printer with wireless capabilities.

Benefit 1: _____

Benefit 2: _____

(2)

8.4 When the travel agency sets up the notebook computers, the following EULA is displayed before the installation could be finalised.



[<https://www.google.com/search?q=eula+definition&rlz=>]

Figure 3

8.4.1 Expand the acronym *EULA* and explain what it refers to.

EULA: _____

Explanation: _____

(2)

8.4.2 Why is it important to be aware of the content of the EULA, especially when you use an online service?

(2)

8.5 What is the installation wizard on a computer?

(2)
[26]

MARKER'S USE ONLY:	Total mark Q8	
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QUESTION 9 INTEGRATED SCENARIO (continued)

9.1 The travel agency creates an online survey form.

9.1.1 What does the asterisk '*' character generally indicate on the label of a form where you enter data (for example Name* or Address*)?

(1)

9.1.2 Why would an online survey form perhaps **NOT** be the best option for the travel agency if they would like all their clients to complete the form?

(1)

9.1.3 The travel agency wants to streamline the way in which they keep their clients up to date with the latest travel information. A suggestion was made to set up a blog. Briefly explain what a blog is and list **TWO** good practices to implement that will make people want to read the blog.

Explanation: _____

Good practice 1: _____

Good practice 2: _____

(3)

9.1.4 Explain how the use of an RSS feed could also be beneficial to the clients.

(2)

9.2 The travel agency will use a database to capture all information received from the surveys.

9.2.1 Name the database object that helps to present information in a format that is the most suitable for printing.

(1)

9.2.2 Explain what the purpose of the AutoNumber data type in a database record is by referring to how it works.

Purpose: _____

How it works: _____

(2)

9.2.3 State **THREE** advantages of using a query instead of a filter to extract information from a database.

Advantage 1: _____

Advantage 2: _____

Advantage 3: _____

(3)

9.3 The ACTUAL size of an image called 'maldives.jpg' is 1080×900. This image should display smaller when the following HTML code is executed:

```

```

9.3.1 How does the image size specified in the HTML code affect the size of the image saved on a disk?

(1)

9.3.2 Identify **ONE** possible reason why the displayed image could appear distorted.

(1)

9.3.3 Comment on the accessibility for blind users when the image is displayed on a screen/monitor. Motivate your answer.

Accessibility: _____

Motivation: _____

(2)

9.4 When one of the consultants attempts to play a recording from a sound clip, he cannot hear anything from the speakers that are connected to the notebook.

9.4.1 A brief check shows the volume control icon as shown in Figure 4 below. Explain how this information could contribute to the fact that there is no sound.

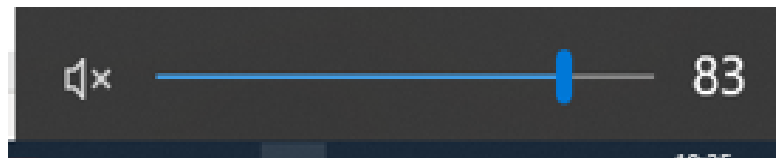


Figure 4

(1)

9.4.2 The consultant fixes the problem illustrated in Question 9.4.1. He also checks that the sound card driver is correctly installed. Describe **THREE** more things he can do to troubleshoot the problem with the sound.

(3)

9.5 The owner of the travel agency has been advised to buy an accounting package to manage their accounts. He also needs to consider an anti-virus program.

9.5.1 Name **ONE** popular accounting package.

(1)

9.5.2 Give **TWO** reasons why people write virus programs.

Reason 1: _____

Reason 2: _____

(2)
[24]

MARKER'S USE ONLY:	Total mark Q9	
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50 marks

Total: 150 marks

