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**SENIOR CERTIFICATE EXAMINATIONS/
NATIONAL SENIOR CERTIFICATE EXAMINATIONS**

COMPUTER APPLICATIONS TECHNOLOGY P2

2021

MARKS: 150

TIME: 3 hours

This question paper consists of 17 pages.

INSTRUCTIONS AND INFORMATION

1.   This question paper consists of:

        SECTION A (25)
        SECTION B (75)
        SECTION C (50)

2.   Answer ALL the questions.

3.   Number the answers correctly according to the numbering system used in this question paper.

4.   Start EACH question on a NEW page.

5.   Do NOT write in the right-hand margin of the ANSWER BOOK.

6.   Leave a line after EACH subquestion.

7.   Generally, one mark is allocated per fact; therefore, a 2-mark question would require TWO facts, etc.

8.   Read the questions carefully. DO NOT give more than the question requires as this will NOT be marked.

9.   All answers MUST be related to Computer Applications Technology.

10.   Answers such as 'cheaper', 'slower'/'faster' and 'easier' will ONLY be accepted if it is used together with a reason or an explanation.

11.   Do NOT use brand names in your answers, unless specifically required.

12.   Write neatly and legibly.

SECTION A

QUESTION 1: MULTIPLE-CHOICE QUESTIONS

Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (1.1 to 1.10) in the ANSWER BOOK, e.g. 1.11 D.

1.1   A file ... specifies the unique location of a file or folder in a file system.

        A   name
        B   path
        C   attribute
        D   extension   (1)

1.2   Which ONE of the following properties does NOT refer to the metadata of a word processing document?

        A   Author
        B   Size
        C   Format
        D   Created   (1)

1.3   … is an acronym for the term used to describe human errors and its influence on computer output.

        A   FOSS
        B   SOHO
        C   DIMM
        D   GIGO   (1)

1.4   On older computers the … will slow down the transfer of data when compared to newer computers.

        A   file size
        B   lag/delay
        C   hardware
        D   images   (1)

1.5   The … will determine the type of language and graphics used in a presentation program.

        A   layout
        B   conclusion
        C   audience
        D   animation   (1)

1.6   A touch screen is the most effective input device when a user is required to …

        A   choose between limited options.
        B   capture large amounts of text.
        C   select from a long list of unsorted options.
        D   enter a large series of numbers.   (1)

1.7   A … is an audio file usually delivered over the internet.

        A   wiki
        B   portal
        C   vlog
        D   podcast   (1)

1.8   A … is a malicious program that is used to initiate a DDoS attack.

        A   virus
        B   bot
        C   keylogger
        D   worm   (1)

1.9   Which ONE of the following calculated fields will determine value-added tax of 15% in a database query correctly?

        A   VAT:[Price]*0.15
        B   VAT=(!Price)*0.15
        C   VAT=["Price"]*0.15
        D   VAT:(Price)*0.15   (1)

1.10   Faking an e-mail header to hide the actual origin of the e-mail is known as …

        A   pharming.
        B   spoofing.
        C   piracy.
        D   copyright.   (1)
                                                                                 [10]

QUESTION 2: MATCHING ITEMS

Choose a term/concept from COLUMN B that matches a description in COLUMN A. Write only the letter (A–T) next to the question numbers (2.1 to 2.10) in the ANSWER BOOK, e.g. 2.11 U.

COLUMN A		COLUMN B	
2.1	A feature that refers to whether a printer can be used with a particular operating system	A	blogs
		B	ADSL
2.2	One way of solving the problem of an application that has stopped responding	C	defragmenter
		D	NOW
2.3	A specification that measures the quality of pictures taken by a camera	E	hacking
		F	graphics card
2.4	A technology that can be used to establish a wireless connection between two devices by bringing them close together	G	Wi-Fi functionality
		H	MP
2.5	An attempt to access personal information by tricking a user into clicking on a link in an e-mail	I	click-jacking
		J	network card
2.6	Websites that read like a personal journal and are often updated with news and events	K	NFC
		L	update
2.7	A spreadsheet function that returns both the date and time	M	phishing
		N	DPI
2.8	A system utility that reorganises parts of files	O	restart
2.9	The term given to the practice of accessing a network without permission	P	compatibility
		Q	identity theft
2.10	A hardware component that can be added to a computer to improve video editing performance	R	TODAY
		S	Disk Cleanup
		T	wikis

(10 x 1)   **[10]**

QUESTION 3: TRUE/FALSE ITEMS

Indicate whether the following statements are TRUE or FALSE. Choose the answer and write 'true' or 'false' next to the question numbers (3.1 to 3.5) in the ANSWER BOOK. Correct the statement if it is FALSE. Change the underlined word(s) to make the statement TRUE. (Do NOT simply use the word 'NOT' to change the statement.)

NO mark will be awarded if only FALSE is written.

EXAMPLES:

QUESTION	ANSWER
The initial start-up instructions are stored in the <u>ROM</u>.	True
<u>Wi-Fi</u> can only connect devices to each other up to 10 metres.	False – Bluetooth

3.1   The <u>wild card</u> character can be used in the Find and Replace feature of a word processor.   (1)

3.2   Instant messaging platforms often use <u>encryption</u> to protect user data.   (1)

3.3   An e-mail program may reject an attachment based on the <u>date</u> of the file.   (1)

3.4   The <u>HDMI</u> port on a computer carries both audio and video signals.   (1)

3.5   <u>Ad-blocking</u> programs identify and remove malware.   (1)

[5]

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEMS TECHNOLOGIES

4.1　A SOHO computer user must choose computer hardware and software for his auditing business.

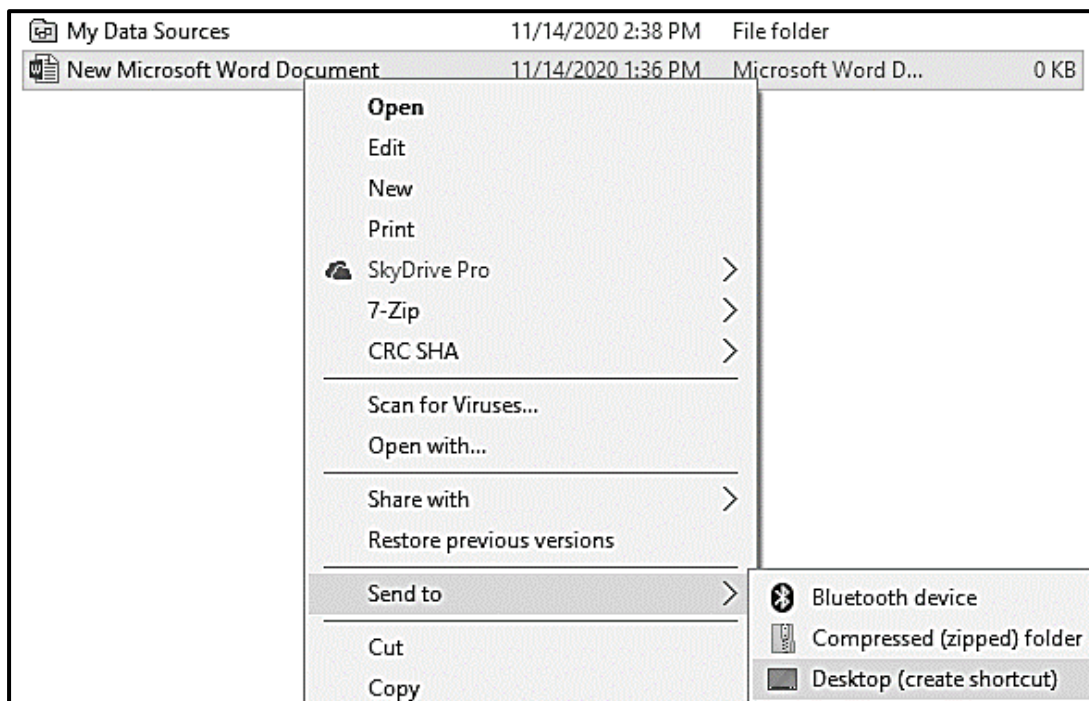Study the table below to help him make the correct buying decisions.

SPECIFICATIONS TO CHOOSE BETWEEN		CHOICE	REASON
e.g. 19" 4:3 monitor	e.g. 24" 16:9 monitor	e.g. 24" 16:9 monitor	e.g. Physically larger
SSD	HDD	4.1.1	Cheaper per GB of storage space
2 GB RAM	16 GB RAM	16 GB RAM	4.1.2
Windows 7 Professional Edition	Windows 10 Professional Edition	4.1.3	4.1.4

Complete the table above by writing down only the answers next to the question numbers (4.1.1 to 4.1.4) in your ANSWER BOOK.　　　(4 x 1)　　(4)

4.2　Why would an entry-level CPU be a good choice for a computer in a SOHO office?　(2)

4.3　Which software or hardware device could be added to a computer network to prevent unauthorised access to the network?　(1)

4.4　A hard disk analysis shows that the drive is almost full.

4.4.1　Explain TWO problems that may occur when the hard disk drive is full.　(2)

4.4.2　Name ONE system utility program that can remove unwanted files.　(1)

4.4.3　How can one free up some space on the hard drive, other than removing files?　(1)

4.5　Give TWO ways in which to solve the problem of a computer that switches on but does not load the operating system at all.　(2)

4.6　Explain ONE disadvantage of convergence.　(1)

4.7   Why would you recommend using note-taking software? Give TWO reasons.   (2)

4.8   Give TWO functions of a web browser, other than the ability to view web pages.   (2)

4.9   Software should be updated regularly.

     4.9.1   Discuss TWO challenges that a user may experience when updating software.   (2)

     4.9.2   Give ONE way to ensure that the computer does not update while it is being used.   (1)

4.10   A user tries to save a word processing document on the Desktop by performing the action as shown in the screenshot below.
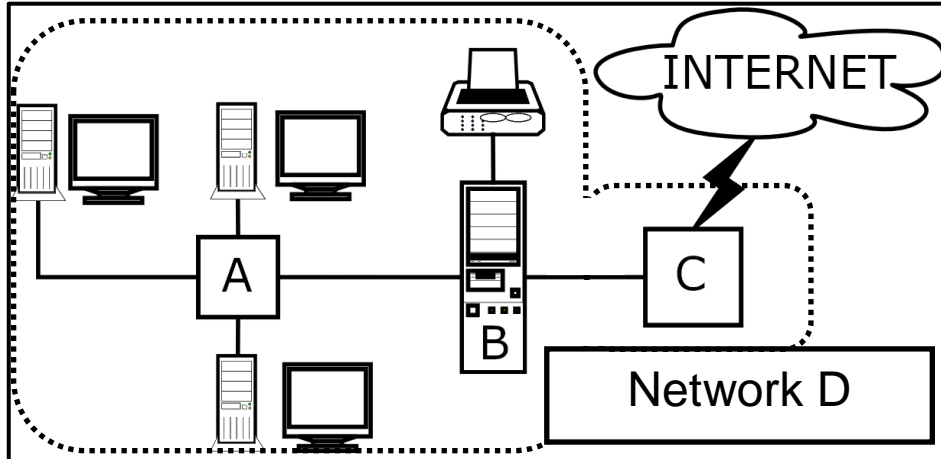

     Give the reason why the user is NOT successful AND give a solution to this problem.   (2)

4.11   You find that your voice recognition software does not always correctly understand what you are saying.

     Give TWO possible solutions to this problem.   (2)

     [25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1   State TWO advantages of grid computing.   (2)

5.2   Consider the diagram of a network below and answer the questions that follow.

5.2.1   Identify devices **A**, **B** and **C** in the network diagram.   (3)

5.2.2   What type of network is Network **D**?   (1)

5.3   Give TWO reasons why it is better to turn off a Bluetooth connection on a tablet or smartphone when the connectivity is not required.   (2)

5.4   Suggest TWO changes that would make the following password more secure, without changing the length of the password:

1b00f70e   (2)

5.5   When you make an online payment, some service providers will send a one-time password ('OTP') to your smartphone.

Why is it necessary to enter this OTP if you have already signed in with your username and password?   (1)

5.6   Why would you use the Bcc feature of an e-mail program when sending an e-mail?   (1)

5.7   What type of communication medium is used in long-distance undersea cables, such as SEACOM, that connect Africa to other continents for internet access?   (1)

5.8   Give TWO disadvantages of FTP technology for the transfer of larger files on the internet.   (2)

[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1   Explain TWO ways in which a teacher can find out whether learners are guilty of plagiarism in their PATs.   (2)

6.2   State TWO ways in which a chart/graph can be made easier to interpret when it is included in a report, such as the PAT.   (2)

6.3   A Tourism learner created an electronic survey which included the question: 'How long was your stay at the hotel?'

Respondents could choose from the following options in a dropdown list:

❖ *One day*
❖ *Two days*
❖ *Three days or more*
❖ *Longer than five days*

6.3.1   Give TWO advantages of using drop-down form fields in an electronic questionnaire.   (2)

6.3.2   Which ONE of the options in the example above should be removed? Motivate your answer.   (2)

6.4   Explain TWO ways in which to ensure the logical grouping and flow of information in a formal report.   (2)

[10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1   Define the concept of *social engineering*.   (2)

7.2   Discuss TWO negative implications for a company when employees do
       private tasks on company computers during working hours.   (2)

7.3   Suggest ONE software technology that can be used with internet-connected
       cameras to identify potential criminal activity.   (1)

7.4   State TWO strategies that learners could use to discourage cyberbullying.   (2)

7.5   Give ONE reason why some people might unknowingly trust a program that
       potentially contains a Trojan.   (1)

7.6   Study the advertisement below and answer the questions that follow.

7.6.1   Give the general term used to describe the design of furniture and
        other devices that improves the working environment.   (1)

7.6.2   Why will the advertised chair be beneficial for a computer user?   (1)

                                                                                [10]

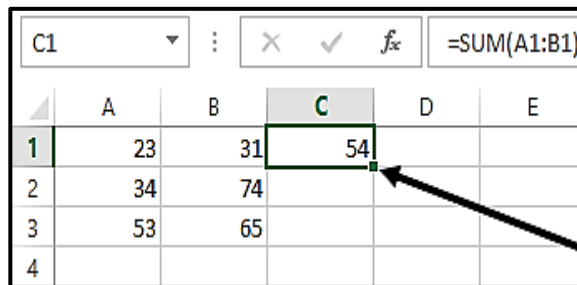## QUESTION 8: SOLUTION DEVELOPMENT

8.1   Give TWO different methods to set the indents in a word processing document. (2)

8.2   The Restrict Editing feature on the Developer tab will allow you to control the number of changes that others can make to your electronic form.

        Give ONE example of how the editing is limited using this feature. (1)

8.3   You try to open a particular word processing file, which you know you definitely saved on your computer.

        Explain why this file does not appear in the list, when you browse for the file. (1)

8.4   What is the purpose of the small square in the bottom right-hand corner of **cell C1**, indicated by the arrow in the screenshot below?

C1		⋮	✕	✓	*fx*	=SUM(A1:B1)

	A	B	C	D	E
1	23	31	54		
2	34	74			
3	53	65			
4					

(1)

8.5   Why should the table range in a VLOOKUP function have an absolute cell reference? (1)

8.6   Explain how the data in the 'original data' table below was processed to give the data shown in the 'processed data' table.

Original data

Item_ID	Department	Price	Number_in_Stock
67474	Computers	R 3,424.00	35
67653	Computers	R 3,493.00	223
67671	Appliances	R 4,666.00	100
67742	Appliances	R 1,141.00	203
67759	Computers	R 4,887.00	96
67806	Computers	R 2,360.00	45
67917	Appliances	R 649.00	146

Processed data

Item_ID	Department	Price	Number_in_Stock
67742	Appliances	R 1,141.00	203
67917	Appliances	R 649.00	146
67671	Appliances	R 4,666.00	100
67653	Computers	R 3,493.00	223
67759	Computers	R 4,887.00	96
67806	Computers	R 2,360.00	45
67474	Computers	R 3,424.00	35

(2)

8.7 A school wishes to send out letters to the parents of the Grade 12 learners, using the mail merge feature of the word processor. The details of the Grade 12 parents are captured in a spreadsheet.

    8.7.1 Give ONE reason why the Insert Merge Field option is not available. (1)

    8.7.2 Assume that the problem in QUESTION 8.7.1 has been resolved and the merge fields were inserted correctly.

              Give a reason why some of the expected records do NOT display in the preview of the mail merge. (1)

8.8 Database queries are used to analyse data.

    8.8.1 On which database objects can a query be based? (1)

    8.8.2 How can you determine the name of the object on which a query is based? (1)

8.9 Draw a diagram to show what will be displayed in a web browser when this HTML code is run:

```
<table border="1">
        <tr>
            <td colspan="2">DESCRIPTION</td>
        </tr>
        <tr>
            <td>Item 2</td>
            <td>Item 1</td>
        </tr>
    </table>
```

(3)

[15]

TOTAL SECTION B: 75

       Please turn over

SECTION C: INTEGRATED SCENARIO

QUESTION 9

The Covid-19 pandemic necessitated health screening at the entrances to all public facilities, such as schools, libraries and clinics, to limit the spread of the coronavirus.

9.1   Give TWO reasons for using ICTs, instead of a pen and paper, to record and manage the health screening data of learners and teachers at a school.   (2)

9.2   The principal suggests that they buy an electronic tablet to record the health screening data of people entering the school.

9.2.1   Give TWO reasons why you agree with the principal that a tablet would be better than a laptop computer <u>for this purpose</u>.   (2)

9.2.2   Give TWO specifications/features of a tablet that you would look for when buying a tablet <u>for this purpose</u>.   (2)

9.3   The new tablet needs to be connected to the school network so that the captured data can be sent to the school server which is located on the third floor.

9.3.1   How will the tablet communicate with the server at the school?   (1)

9.3.2   The tablet does not always connect to the network at the school entrance.

Suggest TWO ways to correct this problem.   (2)

9.4   The screenshot of part of a spreadsheet below shows some health screening data of the learners:

	A	B	C	D	E
1	COVID-19 Screening				
2	Ad min	Da te	Tim e	Temp	Cough
3	105669	23/01/2021	7:15	36.4	No
4	502327	23/01/2021	7:15	36.0	Yes
5	687624	23/01/2021	7:16	35.8	No
6	898614	23/01/2021	7:20	36.8	No
7	785346	23/01/2021	7:21	36.3	Yes
8	786654	23/01/2021	7:21	36.7	No

9.4.1   Which spreadsheet feature can be used to get rid of the unnecessary spaces in the headings in **row 2**?   (1)

9.4.2   Which spreadsheet feature would you use in **column D** to automatically highlight a value if a temperature above 38 degrees is entered?   (1)

9.4.3   Give the spreadsheet function that you would use to determine how many learners have a cough, based on the data in **column E**.   (1)

9.5   Below is the Design View of a database table with learner information and the field properties sheet of the **Date of birth** field.

Learner tracing information		
Field Name	**Data Type**	**Description (Optional)**
Learner ID number	AutoNumber	
Grade	Yes/No	
Date of birth	Short Text	
Cell number	Short Text	
Address	Short Text	
Parent cell number	Short Text	

Field Properties

General   Lookup

Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Indexed	No
IME Mode	No Control
IME Sentence Mode	None
Text Align	General
Show Date Picker	Never

9.5.1   Suggest THREE improvements that could be made to the **Date of birth** field to ensure the entry of valid data.   (3)

9.5.2   Why is it good practice to complete the Description options for each field in the design of the table?   (1)

9.6   Give TWO reasons for making a cloud backup of the data.   (2)

9.7   State TWO ways in which the school could share the learners' health information electronically with the district office.   (2)

9.8   Learners must have accurate information about Covid-19 to protect themselves from possibly contracting the virus.

9.8.1   The Life Orientation teacher gives the learners a long website address that links to factual information.

What service would you use to make it easy to enter or remember this website address? You may use specific examples.   (1)

9.8.2   Explain TWO ways in which the creators of fake information make the information seem real or believable.   (2)

9.8.3   State TWO ways in which learners can avoid being fooled into believing fake information.   (2)

[25]

QUESTION 10

The various Covid-19 protocols that were imposed by the government to restrict the spread of the virus impacted on school attendance.

10.1　ICTs allow for teaching and learning to continue when learners are not at school

　　10.1.1　Define the concept of *mobile learning (m-learning)*.　　(3)

　　10.1.2　Name TWO kinds of electronic resources that teachers can share with learners.　　(2)

　　10.1.3　Give TWO examples of how virtual reality (VR) can enhance the learning experiences of learners.　　(2)

　　10.1.4　Name TWO word processing features that teachers can use to give the learners feedback on their work.　　(2)

10.2　Give the generally accepted term that describes a lack of access to ICTs.　　(1)

10.3　The ICT administrator designed a website to keep the parents informed of the e-learning/m-learning strategies at the school.

　　10.3.1　State TWO advantages of using an ISP for hosting the website.　　(2)

　　10.3.2　Give TWO reasons why an image does not display in a web browser, even though the correct HTML code was used.　　(2)

　　10.3.3　Explain why some parents who view the website on their smartphones may not see the same website layout as one would see on a computer.　　(1)

10.4　Teachers and learners will have to upload and download learning material.

　　10.4.1　Why is it ideal to have a broadband connection for e-learning?　　(1)

　　10.4.2　What is the advantage of having an unshaped line when downloading learning material?　　(1)

　　10.4.3　How can one avoid information overload?　　(1)

10.5   The school received a donation of computing devices to assist the learners.

        Give TWO criteria to determine if the donated devices can be used for
        learning purposes.   (2)

10.6   Name TWO technologies that can assist in controlling the stock of the
        devices.   (2)

10.7   The school uses a database to keep track of the sponsors and the donated
        devices.

        10.7.1 Give ONE reason why a database is more suitable than a
                spreadsheet to store information of donated items.   (1)

        10.7.2 A spreadsheet graph will be used to indicate the value of the
                devices donated by each sponsor.

                How would you create this graph without having to retype the data
                from the database into the spreadsheet?   (1)

        10.7.3 This graph must be inserted into a word processing document.

                How would you ensure that the graph updates when the data in the
                spreadsheet changes?   (1)
                                                                                   [25]

                                                          TOTAL SECTION C: 50
                                                          GRAND TOTAL: 150