**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

NOVEMBER 2022

**COMPUTER APPLICATIONS TECHNOLOGY P2
(EXEMPLAR)**

MARKS: 150

TIME: 3 hours

This question paper consists of 16 pages.

INSTRUCTIONS AND INFORMATION

1.   This question paper consists of:

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

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 sub-question.

7.   In general, one mark is allocated per fact. A 2-mark question would therefore require TWO facts, etc.

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

10. Answers such as 'cheaper', 'slower'/'faster', 'easier', etc. will ONLY be accepted, if they are motivated.

12. Write neatly and legibly.

SECTION A

QUESTION 1: MULTIPLE-CHOICE QUESTIONS

Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (1.1 to .10) in the ANSWER BOOK, for example 1.11 D.

1.1   Which ONE of the following is NOT associated with scanners or the process of scanning?

     A   RFID
     B   OCR
     C   POS
     D   RTF   (1)

1.2   With which one of the following is the 802.11 specification associated?

     A   VGA
     B   WiFi
     C   USB
     D   Bluetooth   (1)

1.3   In a database, each table should include a field that uniquely identifies each record. This field is known as the ...

     A   identity number.
     B   autonumber.
     C   source code.
     D   primary key.   (1)

1.4   Which ONE of the following controls allows you to select more than one option?

     A

     B

     C

     D

     (1)

1.5   Which ONE of the following file extensions can be associated with a graphics file?

A   .doc
B   .mp3
C   .pdf
D   .bmp   (1)

1.6   The most likely reason that you have 'extra drives' on your computer (such as U:, T: and Z: etc.) is that …

A   your computer has been infected by malware.
B   you are in the process of installing new software on your computer.
C   you are currently downloading a number of different files from the Internet.
D   you are currently connected to a LAN.   (1)

1.7   The abbreviation DIMM is used to describe a …

A   'module' of RAM designed to fit into a slot on the motherboard.
B   type of port.
C   button used to control the brightness of the screen.
D   type of cable used in networking.   (1)

1.8   Which one of the following would you NOT typically find in a *Netbook* computer?

A   Hard drive
B   Touch pad
C   DVD drive
D   USB ports   (1)

1.9   A collection of fixes, updates and new features since the release of the original software is usually referred to as …

A   a patch.
B   a service pack.
C   an upload.
D   a driver.   (1)

1.10   Which one of the following refers to a set of 'rules' whereby a device is automatically detected and configured for use when it is added to or installed on a computer?

A   AUP
B   Plug and Play
C   Validation rules
D   Spooling   (1)
                                                                         [10]

QUESTION 2: MATCHING COLUMNS

Choose a term/concept from COLUMN B that matches the description in
COLUMN A. Write only the letter (A–O) next to the question number (2.1 to 2.10)
in the ANSWER BOOK, for example 2.11 N.

COLUMN A		COLUMN B	
2.1	It is used to connect a computer to a wired network	A	ROM
2.2	The unit in which the resolution of a scanner is measured	B	RAM
2.3	A type of memory that contains boot-up instructions for a computer to load the operating system	C	ISP
2.4	A digital camera with more options than a point-and-shoot camera	D	MP
2.5	The unit used to measure the speed of a printer	E	DPI
2.6	A company that provides internet access	F	PPM
2.7	An online storage facility	G	RECORD
2.8	The unit used to indicate or measure the resolution of a digital camera	H	DVI
2.9	A single fact or the smallest unit of data in a database	I	DROPBOX
2.10	Printers that can create three-dimensional solid objects from a digital model of the item	J	NIC
		K	DSLR
		L	NFC
		M	3D
		N	ISO
		O	FIELD

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

QUESTION 3: TRUE/FALSE ITEM

Indicate whether the following statements are TRUE or FALSE. Write 'true' or 'false' next to the question number (3.1–3.5) in the ANSWER BOOK. Correct the statement if it is FALSE. Change the underlined word(s) to make the statement TRUE. (You may not simply use the word 'NOT' to change the statement. NO mark will be awarded if only FALSE is written down.)

EXAMPLES:

QUESTION	ANSWER
Facebook is an example of a social networking website.	True
A **NIC** has slots for hardware components such as the CPU.	False – motherboard

3.1   HDMI ports in monitors use digital signals to provide better quality images.   (1)

3.2   The contrast ratio is the relationship between the width and height of a screen, for example, a 16 : 9 ratio.   (1)

3.3   The process of encoding data on your computer or device so that unauthorised people cannot read the data is known as encryption.   (1)

3.4   The screen size of a monitor is measured vertically in inches.   (1)

3.5   Backing up refers to the process where files that are seldom changed or used are moved from a computer to another system.   (1)

[5]

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEM TECHNOLOGIES

4.1   Name the THREE main hardware components one should consider when purchasing any type of computer for general computing purposes.   (3)

4.2   List TWO benefits of having a UPS connected to your computer.   (2)

4.3   Give TWO general disadvantages or limitations of using touch screens for input.   (2)

4.4   A teacher has a number of old test papers in *hardcopy* format. She wants to change some of the questions.

    4.4.1   What is meant by the term *hardcopy*?   (1)

    4.4.2   Give the additional hardware <u>and</u> software (apart from the computer itself) that the teacher will need to convert the test papers to editable text.   (2)

4.5   A friend purchased a *biometric* flash drive.

    Explain what the term '*biometric*' refers to and give the main use of this technology.   (2)

4.6   One of the options or specifications you need to look at when purchasing a printer is the *monthly duty cycle*.

    Briefly explain what is meant by the monthly duty cycle of a printer.   (2)

4.7   Distinguish between a *typical* and a *custom* software installation.   (2)

4.8   State TWO advantages of cloud storage <u>apart</u> from cost issues.   (2)

4.9   Hard drives become *fragmented* over time and need to be defragmented.

    What is the main benefit of defragmenting a hard drive?   (2)

4.10   Your teacher makes use of the Study Opportunities blog.

    4.10.1   Briefly explain what a *blog* is.   (1)

    4.10.2   Give TWO examples of how bloggers make money via their blogs.   (2)

4.11   Give TWO functions of a motherboard.   (2)

[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1   Computers in a network have to be connected by some sort of communication media (either via cable or wirelessly). UTP and fibre optic are two options that use cables.

       Explain TWO main differences between UTP cables and fibre optic cables.   (2)

5.2   Wireless Internet connections are great – you get mobile internet access 24/7.
There are, however, also some limitations associated with wireless connectivity.

       5.2.1   Give the name of a type of wireless Internet technology, apart from Wi-Fi.   (1)

       5.2.2   Briefly explain the concept of a '*hotspot*' in terms of a Wi-Fi connection.   (2)

       5.2.3   Give TWO potential disadvantages of connecting a network *wirelessly* as opposed to using cables, <u>besides</u> cost.   (2)

5.3   Computer criminals use a number of methods to carry out computer crimes, many of which involve the use of software and/or social engineering techniques.

       5.3.1   Give the general term used to describe any software designed to install itself without the user's knowledge and to negatively affect a computer system.   (1)

       5.3.2   Briefly explain what a keylogger is and why banks often warn about them.   (3)

5.4   The following is an attempt to design a home page for a school's website:

Identify FOUR criticisms of the page, <u>besides</u> any issues related to *colour* or the *content* (*wording*).

WE WELCOME THIS OPPORTUNITY TO INTRODUCE YOU TO OUR SCHOOL. WE ARE VERY PROUD OF OUR SCHOOL AND HOPE YOU WILL COME TO SHARE IN THE HAPPINESS, LOVE AND FAMILY UNITY OUR SCHOOL OFFERS. THIS WEBSITE PROVIDES A BRIEF INSIGHT INTO OUR ETHOS. I TRUST THAT OUR TECHNOLOGICALLY ADVANCED RESOURCES, MODERNISED CURRICULUM, VARIETY OF SPORTS AND SOCIETIES, PROGRESSIVE ACADEMIC PROGRAMME, INDIVIDUALISED SUPPORT STRUCTURES AND FIRM BUT FRIENDLY DISCIPLINARY CODE WILL MEET ALL YOUR EXPECTATIONS. WE WELCOME YOUR ENQUIRIES AND ARE HAPPY TO PROVIDE MORE INFORMATION ON REQUEST. WE STRIVE TO BE A HAPPY, STABLE, CARING SCHOOL WHERE WE CREATE A SENSE OF BELONGING IN ALL OUR MEMBERS. WE HOPE TO MAINTAIN A PROGRESSIVE, PRO-ACTIVE APPROACH TO OUR RESPONSIBILITY OF BUILDING A NATION AND PROVIDING AN EXCELLENT STANDARD OF EDUCATION.

We will continue to integrate academic, cultural and sporting endeavours; spiritual, emotional and moral development, and social awareness. We recognise our role as a leader in the community, both immediate and further afield. Our badge endorses our commitment to developing the body, mind and spirit of each and every learner. We strive to inculcate in all students so that it remains with them long after they have left school. We make every effort to make new members feel at home as soon as possible.

Click here

(4)

[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1   Gathering data is the first step in information management.

        Give TWO advantages of using data that is already in a digital format.   (2)

6.2   Examine the following screenshot of the top part of a questionnaire produced
         in *Word* that uses *text form fields*:

Name and Surname:

Response: *Enter your response*
                                  towards animal poaching

6.2.1   What is the advantage of using form fields to enter data in electronic
         forms?   (1)

6.2.2   The data obtained from the questionnaire will be added to a database.
         Suggest TWO ways in which this part of the questionnaire could be
         changed, so as to obtain better quality information from the database.   (2)

6.2.3   The questionnaire was saved as a *template*.

         Briefly explain what a *template* is in this context.   (2)

6.2.4   Give TWO general advantages of using a database instead of a
         spreadsheet to manipulate and process data.   (2)

6.3   Thandile copied information from a website for her PAT and presented it as
        her own work.

        Name the crime that Thandile is guilty of.   (1)
                                                                          [10]

QUESTION 7: SOCIAL IMPLICATIONS

7.1   Data protection entails the control of access to physical data as well as the control of access to computers.

       Give TWO steps that can be taken to prevent unauthorised access to computers.   (2)

7.2   Give TWO potential disadvantages of using ICT in the workplace, <u>besides</u> cost issues.   (2)

7.3   A person with poor motor control often struggles to use a regular keyboard and mouse.

       Name TWO alternative devices for such people to enable them to use a computer effectively.   (2)

7.4   Give TWO tips on how to prevent eye strain when using a computer for long periods of time.   (2)

7.5   Name TWO common options one can set in the power schemes or settings on a portable computer in order to preserve battery life.   (2)

                                                                            [10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1   Examine the following analysis of the results of a certain test in a spreadsheet, and answer the questions below it:

	A	B	C	D	E	F
1			**Total number of questions**	**50**		
2	**Surname, Name**	**Class**	**Questions answered**	**Questions correct**	**%**	
3	Evans, Ian	A	50	40	80.0%	
4	Plaatjies, Miranda	B	30	15		#VALUE!
5	Sapuka, Mtetelele	A	38	19	47.5%	
6	Singh, Kavish	C	45	36	240.0%	
7	Swart, Marie	B	35	30	157.9%	
8	Evans, Joe	A	35	30	157.9%	

8.1.1   The formula in cell E3 to calculate the percentage of questions answered correctly out of the <u>total number</u> 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 is happening <u>and</u> suggest a way to fix the problem.   (3)

8.1.2   The number of questions <u>actually answered</u> by the pupils is stored in Column C. Write down the formula needed in cell F3 to calculate the percentage of questions that the learner Ian Evans answered correctly, out of the number of questions that he actually answered.

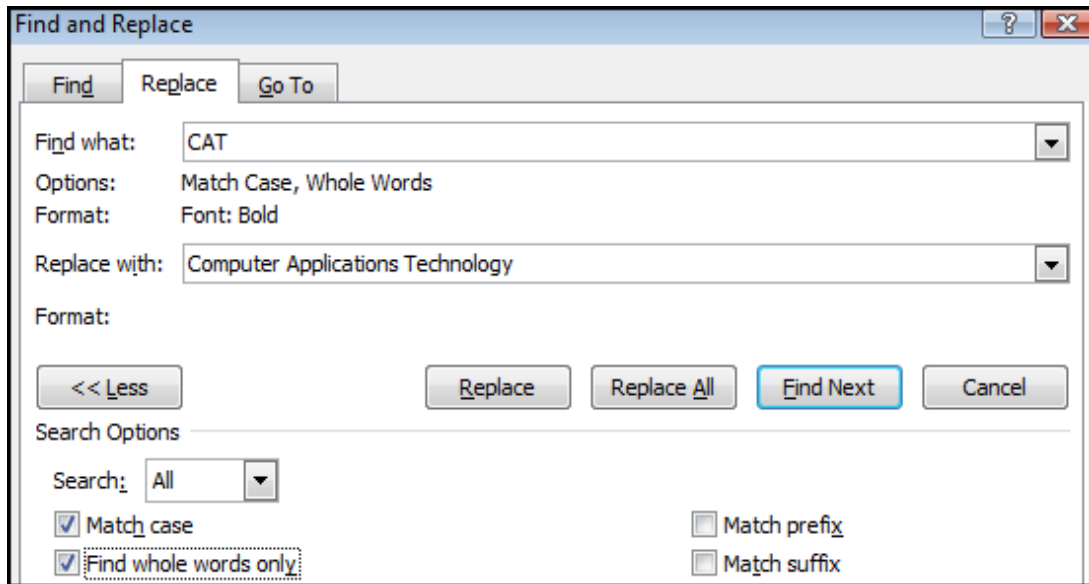Assume that cell F3 has already been formatted correctly as percentage.   (2)

8.1.3   The current design of the spreadsheet will cause a problem if the user tries to sort the data in alphabetical order of the learners' names (Column A).

Briefly explain how the spreadsheet could be redesigned, so as to avoid the problem.   (2)

8.1.4   The teacher wanted to determine how many learners wrote the test. He used the function = COUNT(A3:A8) in cell F1. Write down the result that would appear in cell F1. Write down the correct function that the teacher should rather use.   (2)

8.2 All occurrences of the word CAT must be replaced with the text **Computer Applications Technology** in bold, in a certain word processing document.

The Find and Replace dialog is completed as follows:

8.2.1 Why should the 'Match Case' option be selected as shown. (2)

8.2.2 Explain why the 'Find whole words only' option should be selected as shown. (2)

8.2.3 Explain, with reference to the settings in the dialog, why the replacements will <u>not</u> be made as they were intended. (2)

[15]

TOTAL SECTION B: **75**

SECTION C

QUESTION 9: INTEGRATED SCENARIO

> The school is hosting a dog show for fundraising. The Grade 12 CAT class has been asked to prepare a small information centre in one of the classrooms to help with tasks relating to the event. There will be a small network linked to a printer and Internet access will be provided.

9.1   The network will consist of two Windows desktop computers and an ultrabook laptop that uses open-source software (OSS).

      9.1.1   Name ONE example of an open-source office suite.   (1)

      9.1.2   Give the main advantage of open-source software, apart from the fact that this software can be freely used and distributed.   (1)

      9.1.3   Give ONE general <u>hardware</u> disadvantage of a laptop compared to a desktop computer, apart from the fact that portable computers sometimes have lower hardware specifications than non-portables.   (1)

9.2   The hard drive of one of the desktop computers is running out of storage space.
Give THREE suggestions on how to free up more disk space, apart from adding another hard drive.   (3)

9.3   Sibu, one of the learners, is responsible for recording a video and setting up a 'live feed' of the event.

      9.3.1   What is the most important specification of a monitor for most users?   (1)

      9.3.2   Sibu finds that a USB 2.0 port is too slow to transfer video data quickly enough.

            Give the name of a port that has a higher data transfer rate than USB 2.0.   (1)

      9.3.3   Give the additional <u>hardware</u> item Sibu would need to connect to his computer to receive a 'live feed' of the dog show, apart from any network items.   (1)

9.4   Sibu was asked to check whether the anti-virus software on his computer was 'up to date'.

      9.4.1   Briefly explain, with reference to the way in which anti-virus software detects viruses, why it is necessary to update the anti-virus software on a computer regularly.   (2)

      9.4.2   Sibu wanted to know whether his *firewall* software needs to be updated as well.

            Briefly respond to his query, by referring to the function of firewall software.   (2)

9.5   Jasmine uses the Web to look up information about dog handling.

   9.5.1   While Jasmine was using her browser, the following window appeared:

          What is the general name given to the type of window, such as the one shown above, that appears unexpectedly and without your consent?   (1)

   9.5.2   Give ONE reason why Jasmine should not follow the instructions in the window.   (1)

9.6   Sibu is proud of his ability to use keyboard shortcuts.

   9.6.1   State the main reason why keyboard shortcuts are used.   (1)

   9.6.2   While editing a long document, Sibu selected all the text in the document and then pressed the spacebar by mistake. All his work 'disappeared'!

          Which keyboard shortcut can Sibu use to get his work back?   (1)

9.7   A multi-function printer is connected to one of the computers.

   9.7.1   Name the port generally used to connect a printer to a computer.   (1)

   9.7.2   Give TWO advantages of a multi-function printer, apart from any cost factors.   (2)

9.8   In setting up the school's website, Sibu used a 'strong' password.

        Name TWO characteristics of a 'strong' password.   (2)

9.9   Sibu's first design of the website contained too many animations and it was hard to navigate the website easily.

        Give THREE reasons why it is NOT a good idea to have many animations on a web page.   (3)

                                                                                                                      [25]

QUESTION 10: INTEGRATED SCENARIO

10.1   Give TWO common built-in software features that most modern operating systems have, that makes it easier for people with physical disabilities to use computers.   (2)

10.2   If your computer does not meet the minimum requirements, how could that affect the running of the program?   (2)

10.3   A software requirement for a program says, 'Windows 7 or higher'. What does this mean?   (2)

10.4   Give TWO reasons why one would use the 'Open with' option as opposed to double-clicking on the file.   (2)

10.5   Briefly describe TWO scenarios in which you would want to store a file as a different type.   (2)

10.6   You recently downloaded a file from *YouTube* but now you cannot find it.

         List TWO of the search options you could use to try to locate this file.   (2)

10.7   You can find out where a photo was taken by looking at the *metadata* of the file.

        Explain what this means.   (2)

10.8   Incorrect or invalid data causes computer systems to produce output that is incorrect and of no use.

        10.8.1   Name TWO other consequences that unreliable or incorrect output can hold for a business.   (2)

        10.8.2   Give TWO reasons why a database is more suitable than a spreadsheet to store information.   (2)

10.9   Social engineering techniques can cause the most sophisticated security systems to be completely useless.

        10.9.1   Explain what this statement means by explaining what social engineering refers to.   (2)

        10.9.2   Give TWO examples of how e-mails can be used in social engineering.   (2)

10.10   Discuss THREE advantages of using a social networking site.   (3)

                                                                                    [25]

                                                          TOTAL SECTION C: 50
                                                          GRAND TOTAL: 150