Province of the
EASTERN CAPE
EDUCATION

NATIONAL
SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2018

COMPUTER APPLICATIONS TECHNOLOGY P2

MARKS: 150

TIME: 3 hours

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.

6.   Leave a line after EACH subquestion.

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

8.   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 number (1.1–1.10) in the ANSWER BOOK, for example 1.11 D.

1.1   Which ONE of the following items is an example of a integrated package?

     A   Microsoft Publisher
     B   Excel and Quattro Pro
     C   Microsoft Office
     D   Windows 10 professional   (1)

1.2   Which ONE of the following units refers to processor speed?

     A   GHz
     B   dpi
     C   mbps
     D   ppm   (1)

1.3   With ONE of the following acronyms has to do with software licensing?

     A   GUI
     B   WWW
     C   WLAN   (1)
     D   EULA

1.4   Which ONE of the following refers to a feature of software where users can interact with the software by using visual controls such as buttons and icons?

     A   RSI
     B   GUI
     C   GPS
     D   JPG   (1)

1.5   Which ONE of the following is a technology most commonly used to connect a variety of different devices to a computer?

     A   UPS
     B   CPU
     C   USB
     D   VoIP   (1)

1.6   Which ONE of the following is an example of a monitor's refresh rate?

    A   5 ms
    B   1920 x 1080
    C   16:9
    D   60 Hz   (1)

1.7   Which ONE of the following statements about RAM is FALSE?

    A   RAM is more expensive per GB than hard drives.
    B   RAM does not store data and programs when the device is switched off.
    C   RAM has a much lower capacity than hard drives.
    D   RAM operates on a mechanical basis and is therefore comparatively slower.   (1)

1.8   The defragmentation utility can be used to ...

    A   rearrange files in a continuous order.
    B   remove corrupted files.
    C   compress unused files.
    D   increase hard drive space.   (1)

1.9   Which ONE of the following options has the networks listed in increasing order of size?

    A   PAN, WAN, HAN
    B   HAN, LAN, WAN
    C   LAN, WAN, HAN
    D   PAN, WAN, LAN   (1)

1.10   Clicking on the Home 🏠 icon of your web browser will take you to the …

    A   web page that you visited the most.
    B   web page of your ISP.
    C   web page that you last viewed.
    D   web page that you have set as the start page when the web browser opens.   (1)
                                                                                        [10]

QUESTION 2: MATCHING ITEMS

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

COLUMN A		COLUMN B	
2.1	A type of malicious program that gathers information about the user without the user's knowledge	A	IMM
2.2	The most suitable type of network connection for a university where connections need to be made between the different buildings	B	Blu-Ray
2.3	A stick of RAM that fits into a slot on the motherboard	C	microwave
2.4	A hardware blueprint or format of a document that can be used repeatedly	D	RSI
2.5	Software freely available for use and where the source code can be altered/changed as needed	E	router
2.6	Database feature used to ensure the correct format of data input by the user	F	spyware
2.7	A component that determines the quality of the display on the screen	G	wizard
2.8	A central node where all the computers on a network plug in	H	switch
2.9	A type of DVD technology	I	validation rule
2.10	A small touch-sensitive device often used on a laptop computer as an alternative to a mouse	J	wireless
		K	freeware
		L	graphics card
		M	template
		N	field size
		O	HDMI
		P	open source
		Q	power bus
		R	touch pad
		S	stylus
		T	validation text

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

QUESTION 3: TRUE/FALSE

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
Google is the world's most popular search engine.	True
An **NIC** has slots for hardware components such as the CPU.	False – motherboard

3.1   A **task definition** is a set of questions that can have a selection of possible answers to choose from.   (1)

3.2   The image below is an example of a **biometric test** used to determine whether it is a human being interacting with the computer.   (1)

3.3   A **hotspot** is a place where Wi-Fi/wireless connection to the Internet is available.   (1)

3.4   A **password** can be used to lock your cell phone by setting up a pattern you must draw or trace on the screen to unlock the device.   (1)

3.5   A **modem** protects data and hardware against power failure.   (1)
     [5]

TOTAL SECTION A: 25

SECTION B

QUESTION 4: SYSTEM TECHNOLOGIES

4.1   Study the following advertisement and answer the questions that follow.

Transformer Book Duet TD300

Dual-OS
- 13.3-inch Full HD IPS multi-touch display
- Intel® Core™ i7 processor
- 4GB DDR3L 1600 RAM
- 128GB SSD in Tablet
- 1TB HDD in Dock

- 38WHr battery, estimated battery life around 5 hours in Windows 8.1 and 6 hours in Android 4.2.2.
- 802.11ac Wi-Fi; Bluetooth 4.0 + EDR

- Tablet ports: Micro SD card, Headphone jack, DC jack
- Keyboard dock ports: 1 x USB 3.0, 2 x USB 2.0, 10/100Mbit/s LAN, HDMI 1.4, audio combo jack, DC jack
- 12 month on-site warranty

PLUS Canon SCX500 Multi-Function Printer

4.1.1   This device has a dual operating system. What does this mean?   (1)

4.1.2   Write down TWO functions of an operating system.   (2)

4.1.3   Name the open source operating system installed on this device.   (1)

4.1.4   How much volatile memory does this device have?   (1)

4.2   The following ports can be found on this device. State for each port whether it will enable input, output or both:
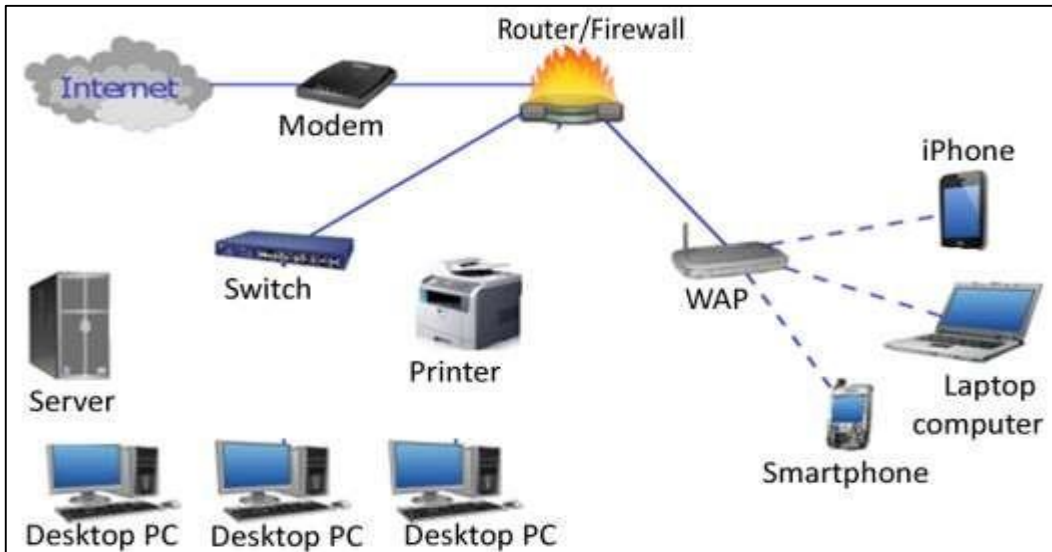
4.2.1   Micro SD card   (1)

4.2.2   HDMI 1.4   (1)

4.2.3   Headphone jack   (1)

4.3 The printer packaged with this device has the following as part of its specifications. Explain what the underlined part refers to:

     4.3.1   15/28 <u>ppm</u>   (1)

     4.3.2   5760 x 1440 <u>dpi</u>:   (1)

4.4 As the hard drive becomes full it becomes slow and less responsive. Name a utility software, and explain how it will solve the problem, that can be used to:

     4.4.1   speed up the computer.   (2)

     4.4.2   free space on the hard drive.   (2)

4.5 All software on a computer should be updated regularly.

     4.5.1   Name TWO reasons why updates should be done regularly.   (2)

     4.5.2   Briefly explain the difference between a patch and a service pack.   (2)

4.6 Users often tend to overlook the importance of using a good quality mouse and keyboard. Ergonomic considerations also need to be taken into account.

     4.6.1   Briefly explain what is meant by the term *ergonomics*.   (2)

     4.6.2   Name TWO features of an ergonomically designed keyboard.   (2)

     4.6.3   How does a cordless mouse communicate with a PC?   (1)

     4.6.4   Name TWO possible advantages of using a cordless mouse.   (2)

[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1   Consider the illustration of different networks below and answer the questions that follow.

5.1.1   Give TWO reasons for connecting computers to a network.   (2)

5.1.2   Explain the function of the router in the diagram above.   (1)

5.1.3   List from the diagram ONE device that you will need to form a Personal Area Network.   (1)

5.1.4   Name TWO functions of the Firewall in the network.   (2)

5.2   Consider the following comparison of wireless technologies and answer the questions that follow:

	Bluetooth	WiFi (a)	WiFi (b)	Wifi (g)	WiMax
Standard	802.15	802.11a	802.11b	802.11g	802.16
Frequency (Ghz)	2.45	5	2.4	2.4	2.66
Speed (Mbps)	0.72	54	11	54	80
Range	10m	50m	100m	100m	50km
Advantages	Low cost	Speed	Low cost	Speed	Speed, Range
Disadvantages	Range	Cost	Speed	Cost, Range	Cost

Wireless technology comparison chart

5.2.1   List the THREE different versions of the wireless standards under Wi-Fi.   (1)

5.2.2   What is the main difference between 802.11b and 802.11g
        protocols?   (1)

5.2.3   Identify the high speed wireless broadband technology that is
        used to connect cities.   (1)

5.2.4   Besides the short distance, why can Bluetooth technology not
        provide the same level of wireless connectivity as Wi-Fi?   (2)

5.3   List THREE things to keep in mind when accessing the Internet using a
      mobile device.   (3)

5.4   Discuss ONE main reason for using an FTP to share files as opposed to
      sending files via e-mail.   (1)

[15]

QUESTION 6: INFORMATION MANAGEMENT

6.1   Preparing bibliographies helps researchers keep track of the sources they consult or cite.

   6.1.1   Name ONE printed source that can be used to find information.   (1)

   6.1.2   Name ONE aspect of a source that can be cited (referenced) in a bibliography.   (1)

   6.1.3   Name THREE advantages of using a DATABASE instead of a spreadsheet.   (3)

6.2   Examine the following extract of data collected from an online survey and answer the questions that follow.

	A	B	C	D	E
1	Person	Male or F	Number of C	Do your children watch t	How Many hours does your c
2	1	M	2	yes	1
3	2	F	1	no	2
4	3	M	1	yes	7
5	4	F	1	no	0
6	5	M	2	no	3
7	6	F	2	no	4
8	7	M	3	yes	5
9	8	F	2	yes	2
10	9	M	3	no	6
11	10	F	1	yes	2
12	11	M	3	yes	4
13	12	M	1	no	6

   6.2.1   Name TWO ways, other than the usage of colour, to improve the design of the spreadsheet to ensure that any reader will be able to easily interpret the results.   (2)

   6.2.2   Which spreadsheet function can be used to summarise the data in Column D so that it can be displayed in a pie graph?   (1)

   6.2.3   How will the user display the responses in a database report so that the responses of the males show separately from that of the females?   (1)

   6.2.4   Identify any form field control that was possibly used in Column B, in the design of the survey.   (1)

[10]

QUESTION 7: SOCIAL IMPLICATONS

7.1   In a computer environment, for example a computer lab at school or in the public library, it is necessary to have an Acceptable Use Policy (AUP).

Give TWO criteria that must be included in their AUP.   (2)

7.2   In today's way of life, people are faced with information overload. Give TWO practical ways in which one can use technology to reduce the problem of information overload.   (2)

7.3   Name TWO ways in which you can decrease the possibility of computer related health risks.   (2)

7.4   It is better to type the URL of a website, such as the URL of your e-banking website, into your browser, rather than clicking on a link. Would this help if your computer has been affected by a pharming 'attack'?

Motivate your answer by briefly explaining what pharming is.   (2)

7.5   Briefly explain what the concept of *social engineering* refers to.   (2)

[10]

QUESTION 8: SOLUTION DEVELOPMENT

8.1   Spreadsheets offer a variety of ways to organise data.

       What is the difference between the spreadsheet functions *COUNTIF* and
       COUNT?   (2)

8.2   Briefly describe what is meant by text wrapping.   (2)

8.3   Explain what each of the following error messages means.

       8.3.1   ######   (1)

       8.3.2   #REF!   (1)

       8.3.3   #VALUE   (1)

       8.3.4   #NAME?   (1)

8.4   Study the following database table:

Guest	Name of complex	Contact number
MATOBHE A M	TAU PARK	825647819
KGAKANE D F	TAU PARK	712356581

       8.4.1   Why does the zero in front of the contact number disappear when
                you add the number?   (1)

       8.4.2   Outline a possible solution for the problem in QUESTION 8.4.1. (1)

       8.4.3   Name THREE possible problems that may occur because of the
                fact that the client surname and initials are in the same field. (3)

       8.4.4   What is the difference between a **field** and a **record** in a
                database?   (2)
                                                                             [15]

                                                  TOTAL SECTION B: **75**

SECTION C

QUESTION 9: INTEGRATED SCENARIO

As part of the activities to celebrate Heritage Day your school is organising video conferences with famous South Africans who have made significant contributions to our heritage.

The school hall which can seat 200 people is prepared as the venue to host the video conferences.

9.1 Give TWO benefits of connecting with these famous South Africans via video conferencing rather than using a normal telephone call. (2)

9.2 Name ONE other way of electronic communication that can be used to connect with these persons that will give the same benefits as video conferencing. (1)

9.3 Name ONE software application, other than Skype, that can be used for video conferencing. (1)

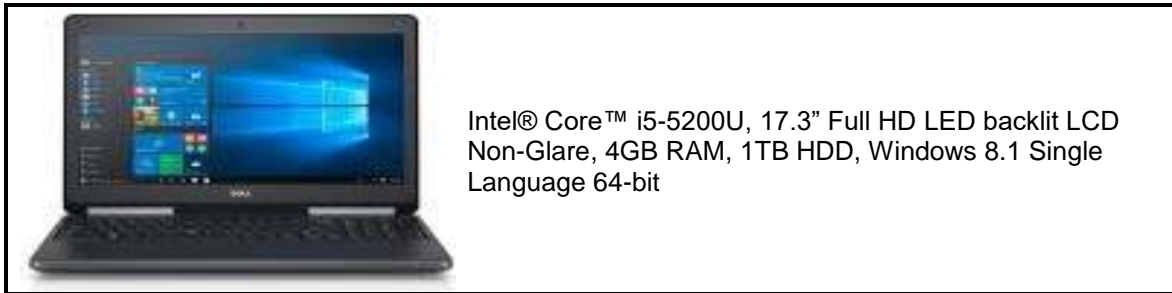9.4 A laptop with the following specifications will be used as the device to facilitate the video conferences.

CPU	2.5-GHz Intel Core i5
Operating system	MS Windows 7 Professional (64-bit)
RAM	4GB (upgradable to 8GB)
Hard drive size	500GB (Speed 7,200 rpm)
Hard drive type	SATA Hard Drive
Display size	14.1
Resolution	1600 x 900
Video memory	1GB
Wi-Fi	802.11a/g/n
Ports (excluding USB)	FireWire 400, Ethernet, VGA
USB ports	4
Card slots	4 in1 card reader
Warranty/Support	One year standard parts and labour

9.4.1 Why is it advisable to upgrade the RAM to 8GB? Explain your answer. (2)

9.4.2 The size of the laptop's display is only 14.1 inches which is hopelessly too small for everyone to view in the school hall.

9.4.2.1 What can be done to make the video conferences possible for everyone in the hall to see? (2)

9.4.2.2 There is no HDMI port available.
What does the HD stand for and explain why it is important for video conferencing to have such a port? (2)

9.4.3 Name TWO essential devices (not in the specs above) that need to be added to make the video conferencing possible. (2)

9.4.4 Which TWO specifications above will make it possible for the laptop to connect to the Internet? (2)

9.4.5 Why is it significant to have a '4 in1' card reader slot? (2)

9.5 What are the ergonomic considerations that need to be taken into account when setting up the school hall for the video conferencing with regard to:

9.5.1 seating (2)

9.5.2 lighting (2)

9.6 Name THREE ways in which video conferencing can improve education (teaching and learning). (3)

9.7 Name TWO *netiquette* rules which will apply when engaging in on-line communication such as video conferencing. (2)

[25]

QUESTION 10

Grade 12 CAT learners should keep up with all the latest developments and should be able to make informed decisions when buying hardware and software.

Intel® Core™ i5-5200U, 17.3" Full HD LED backlit LCD Non-Glare, 4GB RAM, 1TB HDD, Windows 8.1 Single Language 64-bit

10.1   Study the advertisement above and answer the following questions.

      10.1.1   Name the company that made the processor in the above advert.   (1)

      10.1.2   Explain TWO advantages of using an LED backlit LCD Non-Glare screen?   (2)

10.2   The monitor of the computer is useful in terms of display.

      10.2.1   What do we mean by "the more pixels the higher the resolution"?   (1)

      10.2.2   What is the size of the screen in the advertisement above? Explain how is it measured.   (2)

10.3   Explain *carbon footprint* and also give ONE way in which computers can help us reduce our carbon footprint.   (2)

10.4   Ergonomics and provisions for users with special needs are crucial in computer usage.

      10.4.1   Today's young people are constantly on their cell phones. To which injury can the continued use of cell phones lead?   (1)

      10.4.2   Give ONE example of a specialised input device and ONE example of a specialised output device that can be added to a computer for the visually impaired.   (2)

      10.4.3   Give ONE example of a specialised program that can be added to a computer for the visually impaired.   (1)

10.5   You cannot work productively on a computer that executes instructions slowly.

      10.5.1   Name TWO things you can do to increase storage on the hard drive of your computer, other than upgrading or creating a backup?   (2)

10.6   There are concerns about a few malware terms.

   10.6.1   Briefly explain what is meant by e-*mail spoofing.*   (2)

   10.6.2   Briefly explain how malware can have huge implications in terms of financial costs for a company.   (2)

   10.6.3   Briefly explain what is meant by the term *Botnet.*   (2)

10.7   A learner has tried to create a basic website to inform the community about the top learner in CAT. Study the HTML code below and answer the questions that follow:

```
<title>
Top learner
        <hr/>
</title>
<body>
        <h1> OBTAINING 90% IN CAT! </h1>
        <font colour="red">
        Help this deserving learner!
        </font> <br/>
</body>
```

   Explain how you would correct the following errors:

   10.7.1   The horizontal line does not display   (1)

   10.7.2   The heading 'OBTAINING 90% IN CAT!' should appear smaller   (1)

   10.7.3   The text 'Help this deserving learner!' should be displayed in red, but it is currently displaying in black   (1)

10.8   A database was created to keep record of the contributors.

Study the screenshot below and answer the questions that follow.

Field Name	Data Type
CustomerID	AutoNumber
Surname	Short Text
FirstName	Short Text
Design Specification	Short Text

10.8.1   Name the data type that should be used for the *Design Specification* field to enter a large amount of text.   (1)

10.8.2   Why is the *AutoNumber* data type always suitable to use for a primary key field?   (1)

[25]

TOTAL SECTION C: 50
GRAND TOTAL: 150