

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

SEPTEMBER 2017

COMPUTER APPLICATIONS TECHNOLOGY P2

MARKS: 150

TIME: 3 hours



This question paper consists of 18 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.
6. Leave a line between each sub-question.
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: MATCHING ITEMS**

Choose a term/concept from COLUMN B that best matches a description in COLUMN A. Write only the letter (A–P) next to the question number (1.1–1.10) in the ANSWER BOOK, for example 1.11 Q.

COLUMN A		COLUMN B	
1.1	A test to determine whether it is a human being interacting with the computer	A	CSV
1.2	Additional data stored about a file that describes the contents of the file, such as the name of the author	B	CPU
1.3	A unit used to describe the brightness of the image of a data projector	C	DIGG
1.4	An example of an online storage facility or service	D	FAT
1.5	A text file which uses commas to separate the values in each line	E	CAPTCHA
1.6	A table used internally by the operating system to indicate the actual physical location of files on a disk	F	Dropbox
1.7	A painful compression of the nerves in the wrist caused by repetitive manual action, such as keyboarding	G	En dash
1.8	A social news website featuring user-submitted news stories	H	Metadata
1.9	The hardware component of the computer that executes all the instructions of programs	I	PDF
1.10	A horizontal line a little longer than a hyphen used to express ranges and parenthetical expressions	J	CTS
		K	Lumen
		L	RSI
		M	WAP
		N	Motherboard
		O	Intranet
		P	Em dash

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

QUESTION 2: MULTIPLE-CHOICE QUESTIONS

Various options have been provided as possible answers to the following questions. Choose the most appropriate answer and write only the letter (A–D) next to the question number (2.1–2.10) in the ANSWER BOOK, for example 2.11 E.

- 2.1 The technology that is used to get information from different websites automatically, is called ...
A RSI.
B EULA.
C RSS.
D FAT. (1)
- 2.2 Which ONE of the following would be the most suitable for creating a library management system?
A Word processor
B Database
C Spreadsheet
D Presentation program (1)
- 2.3 Which ONE of the following Internet websites does NOT require a password, user name and/or pin code in order to use its functions?
A Facebook
B Internet banking site
C Twitter
D Wikipedia (1)
- 2.4 Many libraries save money by installing and using inexpensive networked computers known as thin client computers. What main computer part do these thin client computers often NOT have?
A Motherboard
B Hard drive
C Power supply
D RAM (1)
- 2.5 The school library promotes green computing. Which ONE of the following is NOT directly associated with green computing?
A Recycling paper
B Sleep mode
C Security webcam
D Paperless office (1)

- 2.6 A learner did a Google web search and found information on a web page. Which ONE of the following would be the best option for the bibliography?
- A Gates, Bill. *The future of technology*.
<http://microsoft.gates.htm>. Accessed 20 October 2016.
 - B Google
 - C Gates, Bill. *The future of technology*.
 - D <http://microsoft.gates.htm>. Gates, Bill. *The future of technology*. (1)
- 2.7 A public location where wireless Internet access can be obtained for mobile computers is called a ...
- A Wi-Fi.
 - B Hot spot.
 - C MySpace.
 - D Cyber café. (1)
- 2.8 A code in Access which forces data capturers to enter data in a specific format is known as a ...
- A validation rule.
 - B primary key.
 - C input mask.
 - D validation text. (1)
- 2.9 Which ONE of the following specifications is the most likely to indicate that a computer is a notebook?
- A 1 TB HDD
 - B Touchpad
 - C Windows 10 Home (64 bit)
 - D USB 3.0 (1)
- 2.10 Which ONE of the following components forms an integral part of the motherboard?
- A DIMM slots
 - B DVD-ROM
 - C USB drivers
 - D HDD (1)

[10]

QUESTION 3: TRUE/FALSE

Indicate whether the following statements are TRUE or FALSE. Choose the answer and 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
<u>Google</u> is the world's most popular search engine.	True
An <u>NIC</u> has slots for hardware components such as the CPU.	False – motherboard

- 3.1 File sharing is a system whereby the resources of different computers are shared and used at the same time to solve a single problem. (1)
- 3.2 Aspect ratio is the number of steps between the darkest black and the brightest white that a display device can produce. (1)
- 3.3 A patch is a collection of software updates over the past period of time put into one big unit for easier installation. (1)
- 3.4 DOTX is the file extension for a Microsoft Word Template. (1)
- 3.5 A switch is a network device used to connect two or more networks to each other. (1)

[5]**TOTAL SECTION A: 25**

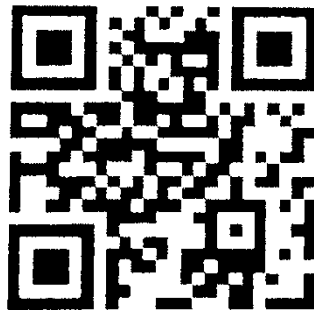
SECTION B**QUESTION 4: SYSTEM TECHNOLOGIES**

- 4.1 The managers at Spar were given a choice to use one of the following two devices to perform their tasks during the countrywide Angry Birds competition.

DEVICE	SPECIFICATIONS
Laptop	<ul style="list-style-type: none"> - Intel Core i7 2.4 GHz CPU - 8 GB RAM - 1.5 TB HDD
Tablet	<ul style="list-style-type: none"> - nVidia Tegra 1.2 GHz CP - 1 GB RA - 32 GB SSD

- 4.1.1 Give TWO reasons why the managers requested to be issued with the laptop rather than the tablet. (2)
- 4.2 A tablet uses an SSD for the storage of data and files.
- 4.2.1 What does the acronym SSD stand for? (1)
- 4.2.2 List THREE comparative differences between the features and performance of an SSD and an HDD in table format. (3)
- 4.2.3 Why have SSDs not completely replaced HDDs, even though they have so many benefits? Do NOT refer to cost in your answer. (1)
- 4.3 Both a tablet and a laptop use cache memory. Explain the purpose of cache memory in a computer system. (3)
- 4.4 Give TWO reasons why a tablet and a laptop cannot use the same type of RAM. (2)
- 4.5 The managers have been told that they can use FireWire 800 or USB 3.0 to upload video material of the performances of contestants to the competition's website.
- 4.5.1 State TWO advantages of USB over FireWire. (2)
- 4.5.2 Would the software used for the editing of videos be considered application software or system software? (1)
- 4.6 Cellular modems are used to connect to the Internet and upload the results of the competition each week. The results are stored in a 'cloud'.
- 4.6.1 Name the type of connection the modem will use with the uploading of the results. (1)

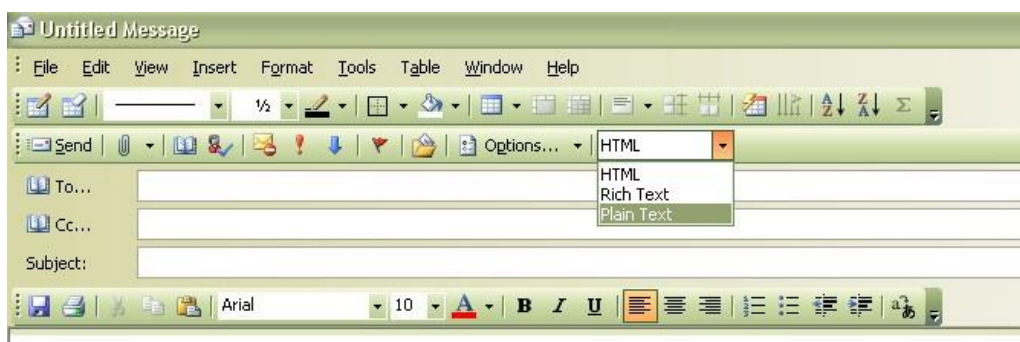
- 4.6.2 Explain what is meant by the term *cloud* in this context. (2)
- 4.7 Each week the managers have a group conference call to discuss results and some of the outstanding performances. It is suggested that they use VoIP in order to save costs.
- 4.7.1 Briefly explain the basic concept *VoIP*. (2)
- 4.7.2 Name a VoIP client that the managers could use to host the conference call. (1)
- 4.7.3 Name ONE other way (besides a conference call), in which the managers could have discussions and collaborate online. (1)
- 4.8 Identify the image below that appears on Spar's newsletter AND explain how it would be used, by referring to a suitable example.



(3)
[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

- 5.1 Friends and family of the contestants requested the managers to e-mail them the video footage as an attachment. Give TWO reasons why this request is possibly not feasible. (2)
- 5.2 The managers made the videos available as podcasts.
- 5.2.1 Explain the concept of *podcasting*. (1)
- 5.2.2 Name TWO examples of an electronic medium that can be used to inform friends and family when a new podcast is available. (2)
- 5.3 Friends and family who want to download multimedia files of all the events, must preferably have a broadband Internet connection.
- 5.3.1 Explain the term *broadband*. (1)
- 5.3.2 ADSL is an example of a wired broadband connection.
- (a) Is ADSL a digital or an analogue connection? (1)
- (b) Give an example of another wired broadband connection. (1)
- 5.4 One of the managers is not familiar with using e-mail and has a few questions regarding the e-mail window.



- 5.4.1 What is the function of the paperclip icon next to the “send” icon? (1)
- 5.4.2 He noticed that there is an option between *Plain Text* and *Rich Text*. Explain the difference between these two options. (2)
- 5.5 How does a social network such as Facebook make most of its money? (1)
- 5.6 Explain TWO advantages of e-books compared to printed versions of books. (NOTE: Cost factors should NOT form part of your answer.) (2)
- 5.7 What is the purpose of the ‘History’ button or tab in a web browser? (1)

[15]

QUESTION 6: INFORMATION MANAGEMENT

- 6.1 The regional manager of Spar has to coordinate a number of meetings with local Spar managers regarding the competition. He has found that there is a great deal of administration involved regarding the competition and that it is quite difficult to set up these meetings.

6.1.1 Mention TWO ways an e-mail calendar function will help in this context. (2)

- 6.1.2 The manager finds that he often has to scribble reminders of tasks on slips of paper.

Give the general or generic name given to the e-mail function that can be used to remind the user of tasks and the due dates of these tasks. (1)

- 6.2 State TWO advantages of using electronic forms when gathering data in a survey. (2)

- 6.3 Give ONE reason for using a table on a form to fill in numbers, such as an ID number, as shown below.

--	--	--	--	--	--	--	--	--	--	--	--	--

(1)

- 6.4 State ONE feature of a spreadsheet that can be used to meaningfully arrange large quantities of data. (1)

- 6.5 Give TWO examples where you would use a database instead of a spreadsheet to process data. (2)

- 6.6 Briefly explain the concept of *plagiarism*. (1)

[10]

QUESTION 7: SOCIAL IMPLICATONS

- 7.1 Name ONE legally acceptable use of a file-sharing application, such as BitTorrent. (1)
- 7.2 Give your opinion regarding the following statement by giving TWO reasons or examples to support your answer:
- 'The Internet offers its users some privacy.' (2)
- 7.3 Many cameras have the capability to 'geotag' photographs.
- 7.3.1 Explain the term *geotagging*. (1)
- 7.3.2 Why do some game reserves discourage visitors from placing geotagged photographs of rhinos on social media? (1)
- 7.4 State ONE possible way of preventing other users from tagging you in photographs on Facebook. (1)
- 7.5 State TWO advantages of cars that are connected to the Internet. (2)
- 7.6 State TWO typical ways in which your computer may be misused by cybercriminals, if they use your computer as part of their botnet. (2)

[10]

QUESTION 8: SOLUTION DEVELOPMENT

- 8.1 Some of the learners in your school are planning a field trip to a book fair. Below is a spreadsheet of their budget.

	A	B	C	D	E
1				Number of learners	30
2	Book Trip Budget				
3		Per learner	Total cost		
4	Transport	\$100.00	\$3 000.00		
5	Food	\$120.00	\$3 600.00		
6	Accommodation	\$200.00	\$6 000.00		
7					
8					
9	Cost per learner	\$420.00			
10	Overall cost		\$12 600.00		
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

- 8.1.1 In the calculation for the **Total cost** for transport, in cell C4, the formula was: =B4*\$E\$1. The formula was then copied down (Autofill) for the other items.

Name the TWO types of cell references used in the formula and explain the difference between the two.

(4)

- 8.1.2 When the data was formatted for currency, the **\$-sign** appeared instead of the **R-sign**.

Explain TWO ways in which this can be corrected.

(2)

- 8.1.3 The pie chart represents the **breakdown of costs** for each learner for the field trip.

Name THREE items that should be added to the pie chart, to make it meaningful and easy to interpret.

(3)

- 8.2 Many modern businesses make use of databases.
- 8.2.1 Indicate in which section the function =Count(*) must be placed in a database report, in order to count the number of records for each group of records in the report. (1)
- 8.2.2 Identify the type of database object in which you are likely to find the formula below.
- Total:[Price]*[Quantity]* (1)
- 8.2.3 The database formula VAT:[Price*0.14] currently produces an error. Correct the formula for it to work properly. (1)
- 8.3 What is a *citation* in a document and when should it be used? (2)
- 8.4 Name the word processing feature that must first be used or applied, before an automatic table of contents will work. (1)
- [15]**

TOTAL SECTION B: 75

SECTION C**QUESTION 9: INTEGRATED SCENARIO**

During the final round of the Idols competition the audience in the State Theatre votes for contestants to determine a winner. They have been provided with remote voting controllers that allow them to press a button to transmit their vote wirelessly via Bluetooth technology to a local server at the Theatre.

- 9.1 Is Bluetooth a suitable technology to use in this scenario? Motivate your answer. (2)
- 9.2 A member's voting controller does not connect to the wireless network, although the member is within range of the server.
- Name TWO troubleshooting steps that can be followed to solve the problem. Replacing the voting controller is not an option. (2)
- 9.3 The live broadcast of the final round of the event can be streamed.
- 9.3.1 Explain what is meant by *streamed*. (2)
- 9.3.2 Name TWO components that are required to be able to stream a live event. (2)
- 9.3.3 State ONE potential disadvantage of using live streaming. (1)
- 9.3.4 Which type of software can be used for input by visually impaired users? (1)
- 9.4 A cabled network is used at the event theatre to transmit the scores electronically to the server. The organisers are planning to use a wireless network for this purpose in future.
- 9.4.1 State TWO advantages of a wireless network over a cabled network. (2)
- 9.4.2 State TWO additional hardware components that are required to create the wireless network. (2)
- 9.4.3 Which upgraded version of Wi-Fi will be suitable to use for the wireless network? (1)
- 9.4.4 Give TWO examples of what NFC (near field communication) can be used for. (2)

- 9.4.5 Describe TWO ways in which the organisers can prevent their computers from being accessed by unauthorised software. (2)
- 9.4.6 What is the function of a driver? (1)
- 9.5 ICT provides more effective solutions for the capturing of data and generating results than a paper-based voting system.
- 9.5.1 Motivate why the above statement is valid by referring to the following TWO aspects:
- (a) Faster and improved data processing (2)
 - (b) Improved data storage (2)
- [24]**

QUESTION 10

The organisers of the Idols competition will be responsible for the accuracy of all information, as well as to create surveys.

- 10.1 Explain the difference between a *survey* and an *interview*. (2)
- 10.2 Give TWO reasons why one should always check the reliability and accuracy of information found on the Internet. (2)
- 10.3 Explain what *information overload* is. (1)
- 10.4 Which social networking service is associated with the term 'hash-tags'? (1)
- 10.5 One of the organisers received the following e-mail, which was supposedly sent by an official at Empire Bank. Examine the e-mail carefully and answer the questions below.

From: Empire Bank [mailto:john@empirebank.co.za]
Sent: 17 May 02:38 PM
To: Sib_u_100@gmail.com
Subject: Empire Bank Verification - Sib_u_100@gmail.com
Dear valued Empire Bank Member

This e-mail was sent by the Empire Bank server to verify your e-mail address. You must complete this process by clicking on the link below and entering in the small window your Empire Bank and Password.

This is done for your protection. To verify your details, click on the link below:

[Click here to update your data.](#)

- 10.5.1 What general name is given to this kind of scam? (1)
- 10.5.2 Should the organiser click on the link? Motivate your answer by explaining what would happen if he did. (2)
- 10.5.3 What is the generic name given to techniques that rely on convincing people to give out information or to grant access by pretending to be someone who has the right to access this information? (1)
- 10.5.4 Banks offer their online banking clients peace of mind by providing a number of security measures designed to make online banking as safe as possible.

Give TWO of these measures, besides the use of encryption. (2)
- 10.5.5 Briefly explain what a computer virus is by referring to TWO of its general aims in your answer. (2)
- 10.5.6 What is a *Trojan*? (2)

- 10.6 The organiser of the Idols has tried to create a basic website to advertise the event for next year. Study the HTML code below.


```
<title>
  Idols
  <hr />
</title>

<body>
  <h1> DATES FOR THE IDOLS AUDITIONS </h1>
  <font colour="red">

  </font> <br />
                                     Auditions kick off in Cape Town!
</body>
```

Explain how you would correct the following mistakes:

- 10.6.1 The horizontal line is not displayed. (1)
- 10.6.2 The heading 'DATES FOR THE IDOLS AUDITIONS' should be smaller. (1)
- 10.6.3 The text 'Auditions kick off in Cape Town!' should be displayed in red font, but it is displayed in black. (1)
- 10.7 A database was created to keep track of the current entries for the competition.
- 10.7.1 Study the screenshot below and name the data type that should be used for the Specifications field to enter a large amount of text. (1)

	Field Name	Data Type
	ID	AutoNumber
	Name	Short Text
	Age	Number
	Category	Short Text
	Specification	Short Text

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

- 10.7.3 The query below was designed to show all the names that start with an S, and the age is either less than 20 or more than 30.

Field:	Name	Age	Category	Specification
Table:	Table1	Table1	Table1	Table1
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	"S"	<20		
or:		>30		

Identify TWO errors in the design of this query that are causing it to display the incorrect information.

(2)

- 10.8 Briefly explain what each of the following would be used for in a word processing application:

10.8.1 Continuous section break

(2)

10.8.2 Bookmark

(1)

[26]

TOTAL SECTION C: 50
GRAND TOTAL: 150

