



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

SEPTEMBER 2015

COMPUTER APPLICATIONS TECHNOLOGY P2

MARKS: 150

TIME: 3 hours



This question paper consists of 14 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 matches the description in COLUMN A. Write only the letter (A–S) next to the question number (1.1–1.10) in the ANSWER BOOK, for example 1.11 T.

COLUMN A		COLUMN B
1.1	A process of adding geographical identification metadata to various media which consists of latitude and longitude coordinates	A Patches
1.2	The use of computer resources in an eco-friendly and efficient way to minimise negative impact on the environment	B Cookie
1.3	Software that enables a user to capture parts of what is seen on the screen	C Geotagging
1.4	A concept where workers bring their own mobile devices, such as smartphones, laptops and PDAs, to the workplace for use and connectivity	D Apps
1.5	Software designed to run on smartphones, tablet computers and other mobile devices	E Open source
1.6	A malicious practice of redirecting users to fake or unexpected websites when they enter a URL in their web browser	F Snipping tool
1.7	Small updates that fix errors in an application	G Green Computing
1.8	A text file containing information on the user's preferences and choices regarding a specific website	H F1
1.9	Software freely available for use and where the source code can be altered/changed as needed	I Pharming
1.10	Keyboard key commonly used to obtain help in application programs	J GIS
		K BYOD
		L Phishing
		M Shareware
		N F3
		O GPS
		P Ergonomics
		Q Paint
		R Plug-in
		S txt

(10 x 1) [10]

QUESTION 2: MULTIPLE-CHOICE QUESTIONS

Various options are given as possible answers to the questions. Choose the correct 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 D.

- 2.1 Which ONE of the following types of files is likely to contain hyperlinks?
- A .bmp
 - B .exe
 - C .html
 - D .avi
- (1)
- 2.2 Which ONE of the following chart types is most appropriate for displaying the changes in temperature over a month in Johannesburg?
- A A pie chart
 - B A line chart
 - C A scatter chart
 - D A bubble chart
- (1)
- 2.3 In a spreadsheet, the following values have been assigned to cells A1 – A3: A1 = 3, A2 = 6 and A3 = 9. The following formula is typed into Cell A4: =SUM (A1:A3)/B1. What will appear in Cell A4?
- A #NUM!
 - B 0
 - C #DIV/0!
 - D 18
- (1)
- 2.4 Which ONE of the following is NOT an example of online storage?
- A Google Drive
 - B OLX
 - C Sky Drive
 - D Dropbox
- (1)
- 2.5 A process whereby one can speed up disk access by rearranging the files on the hard disk of a computer is called ...
- A disc cleanup.
 - B defragmentation.
 - C spooling.
 - D compression.
- (1)
- 2.6 Which ONE of the following wireless communication technologies has the shortest reach?
- A Wi-Fi
 - B LTE
 - C 3G
 - D Bluetooth
- (1)

- 2.7 Which ONE of the following refers to software that is designed to fix bugs and provide new features for existing software?
- A Updates
 - B Drivers
 - C Virus definitions
 - D Wizards
- (1)
- 2.8 Which ONE of the following refers to a type of website that allows users to work together to create, add, delete or modify the content?
- A Webinar
 - B Wiki
 - C RSS feed
 - D Podcast
- (1)
- 2.9 Which ONE of the following ports is the best choice to use to download videos from a video camera to a PC?
- A PS2
 - B USB
 - C Parallel
 - D Firewire
- (1)
- 2.10 Which ONE of the following is NOT directly associated with spreadsheets?
- A Input Mask
 - B Cell
 - C Worksheet
 - D Absolute cell addressing
- (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 number (3.1–3.5) in the ANSWER BOOK. Correct the statement if it is FALSE. Change the underlined word(s) to make the statements TRUE. (You may not simply use the word 'NOT' to change the statement.)

- 3.1 A PDA is a smaller version of a tablet which also incorporates features found on smartphones, such as voice calls and SMSs. (1)
- 3.2 Bandwidth provides always-on, high speed Internet connection and is ideal for fast downloads of software, photos, videos and music. (1)
- 3.3 RSS is a web feed that automatically provides users with updated content. (1)
- 3.4 Grid computing refers to the sharing of resources such as programs and data storage offered as a service over the Internet. (1)
- 3.5 A hotspot is a wireless network technology used for connecting computers to a wireless network or to the Internet. (1)
- [5]**

TOTAL SECTION A: 25

SECTION B**QUESTION 4: SYSTEMS TECHNOLOGIES**

- 4.1 The School Management Team wishes to buy computers for the computer lab at the hostel.
- 4.1.1 You suggest that they buy LED monitors. Motivate your answer. (2)
- 4.1.2 Some suggest that they also buy a graphics card.
What is the function of a graphics card? (1)
- 4.2 The School Management Team has to choose between buying cabled or wireless keyboards and mice.
Name TWO disadvantages of wireless devices. (2)
- 4.3 The Management Team wants to make use of biometric input to control access to the computer laboratory.
- 4.3.1 What is *biometric* input? (1)
- 4.3.2 Name TWO methods of biometric input they could consider. (2)
- 4.3.3 Discuss TWO disadvantages of using biometric input for access control. (2)
- 4.4 Storage is a key factor when buying a computer.
- 4.4.1 State TWO ways (besides cloud storage) in which you could save hard drive space on your computer. (2)
- 4.4.2 What is *cloud storage*? (1)
- 4.4.3 State TWO disadvantages of online storage. (2)
- 4.5 The Management Team is interested in exploring ways in which physically challenged learners can have access to computers in the laboratory.
- 4.5.1 Explain how a speech recognition program can be used to assist physically challenged (disabled) learners. (1)
- 4.5.2 Name any ONE hardware device that can be acquired to assist the visually impaired (blind) learners in the hostel. (1)
- 4.6 In order for a computer to function it needs an operating system and application software.
- 4.6.1 Name TWO functions of an operating system. (2)
- 4.6.2 Web-based applications are stored on and run from servers.
Name TWO advantages of web-based applications. (2)
- 4.6.3 Name TWO software related problems that could reduce the speed of a computer. (2)

4.7 Computers sometimes use virtual memory.

Briefly explain what virtual memory is and how it influences the performance of the computer.

(2)
[25]

QUESTION 5: INTERNET AND NETWORK TECHNOLOGIES

5.1 Name TWO advantages of connecting computers within a network. (2)

5.2 A file server is one of the basic components of a network.

Explain the function of a file server in a network. (1)

5.3 A computer shop offered your school the following package to connect to the Internet using ADSL.

- 4 Mbps/512 kbps uncapped ADSL
- 5 hours free Wi-Fi per month at more than 500 hotspots
- 5 GB Cloud storage account

5.3.1 Explain what the term *uncapped* refers to in the specification. (1)

5.3.2 Why is video-conferencing an expensive method of communication if you do not have an uncapped Internet connection? (1)

5.4 Distinguish between a “*shaped*” and an “*unshaped*” Internet connection. (2)

5.5 When computers are connected to the Internet, it increases the chances of security problems e.g. pop-ups.

5.5.1 What is a *pop-up*? (1)

5.5.2 Why is it advisable to block pop-ups? (1)

5.6 All major banks offer online banking.

5.6.1 State TWO advantages of Internet banking compared to conventional banking. (2)

5.6.2 Name ONE way in which banks can protect their clients when they use online banking. (1)

5.7 Caching is one of the features that help us to use the Web more efficiently.

5.7.1 Briefly explain what caching is. (1)

5.7.2 Give TWO main reasons for using web cache. (2)
[15]

QUESTION 6: INFORMATION MANAGEMENT

- 6.1 Data collection is an important part of information management.
- 6.1.1 Name TWO advantages of using online surveys to gather information. (2)
- 6.1.2 Name the application software that is best suited to process data obtained from a survey. Motivate your answer. (2)
- 6.2 Not all information gathered is necessarily reliable.
- Give TWO reasons why a wiki cannot be considered as a reliable and authoritative source of information. (2)
- 6.3 What does the © symbol indicate? (1)
- 6.4 Name ONE popular style according to which your bibliography can be formatted. (1)
- 6.5 One of the learners visited a website to gather information for an assignment.
- Give TWO tips on how to check that information sourced from the Internet is in fact correct and reliable. (2)
- [10]**

QUESTION 7: SOCIAL IMPLICATIONS

- 7.1 Phishing attempts are not limited to e-mail or the Internet. They are also sent as messages to cellphones.
- 7.1.1 Explain what a *phishing attempt* is. (1)
- 7.1.2 State TWO ways in which you would recognise a phishing attempt. (2)
- 7.2 In general, the copying of software is illegal.
- Name ONE instance, however, in which you are allowed to copy software. (1)
- 7.3 Define the following Internet attacks:
- 7.3.1 Sniffer attack (1)
- 7.3.2 DoS attack (1)
- 7.4 Explain how the following types of computer crime is committed:
- 7.4.1 Bandwidth theft (1)
- 7.4.2 Identity theft (1)
- 7.5 Although technology can benefit society in many ways, it can also be harmful to society.
- Name TWO ways (other than criminal activities) in which technology can have a negative effect on society. (2)
- [10]**

QUESTION 8: SOLUTION DEVELOPMENT

8.1 Rewrite the HTML code segment below to correct it:

`<h1>Computer Applications Technology<h>` (1)

8.2 Rewrite the error-free HTML code below to solve the problem that will occur when it is executed in a browser.

`<body bgcolor="black">` (1)

8.3 Study the extract from the spreadsheet below and answer the questions that follow.

	A	B	C	D	E	F
1	Test Results					
2	Surname	Name	Class	Test 1	Test 2	Total
3				100	100	200
4	King	James	12A	60	45	105
5	Ngqukumba	Sizwe	12B	12	62	74
6	Nkonzo	Likho	12B	15	24	39
7	Esel	Evelina	12A	23	14	37
8	Barnes	Jeff	12A	45	84	129

8.3.1 Suggest ONE way in which the names of the learners in Grade 12A can be extracted without copying each name separately. (1)

8.3.2 The teacher needs to have the same information which appears in the spreadsheet, in a database application.

Which feature of an office package can he use to achieve this? (1)

8.3.3 Why is the SUMIF function not suitable for determining the number of learners in the 12B class? (1)

8.3.4 Which spreadsheet feature could be used to show values in column D, that are greater than 15, in a particular colour? (1)

8.4 One of the learners cannot open a file that he received as an attachment to an e-mail.

Name TWO ways in which he may be able to open the document. (2)

8.5 Name any ONE advantage of working with 'Styles' when creating a document in Word. (1)

- 8.6 Some of the learners are puzzled when they have to wait a few minutes before their documents are printed. The concept of printer spooling is explained to them.

Name ONE function that you can perform when opening the printer queue. (1)

- 8.7 One of the learners discovered that the word processing program has a feature that automatically allows you to add captions to pictures, graphs or tables.

Give TWO reasons, other than saving time, why it is better to use this feature than to do it manually. (2)

- 8.8 The teachers are inputting their marks (as percentages) into a database. It is noticed that some teachers are entering marks that are higher than 100.

8.8.1 Explain how a validation rule could be used to ensure that teachers enter only marks between 0 and 100 (including 0 and 100) in the database.

Give the actual validation rule you would use as part of your answer. (2)

8.8.2 Which database feature could be used to ensure that teachers do not leave a mark 'blank'?

(1)
[15]

TOTAL SECTION B: 75

SECTION C**SCENARIO**

The School Management Team in your school decided to set up a computer lab in one of the hostels. This lab will be used by learners staying in the hostels to do their assignments. This will entail doing research on the Internet, typing and printing their assignments. The aim is that they should be able to communicate with learners from other schools.

The Grade 12 CAT learners will be responsible for assisting learners working in the lab.

QUESTION 9: INTEGRATED SCENARIO

Study the following specifications for a desktop and a laptop computer and answer the questions that follow.

COMPUTER A

Intel Pentium Dual Core G2020 CPU

Intel H61 Motherboard

Dual CoreG2020 2.9 GHz CPU

2GB DDR3 RAM

1TB SATA3 HDD

Intel 512 MB Graphics

24x DVD +/- Writer

Integrated 8 Channel Sound

Wireless keyboard and mouse

COMPUTER B

HP 250 F7X46EA 15.6"
Intel Core i3 Notebook

I3-3110m 2.4GHz CPU

15.6 HD LCD Screen

4GB RAM

500 GB HDD

Windows 8.1 Pro

Integrated 3.2 MP Webcam

3 years Carry-In warranty

9.1 The School Management Team has to decide whether to purchase desktop computers or laptops.

9.1.1 Name TWO advantages of desktop computers. (2)

9.1.2 Name TWO disadvantages of laptop computers. (2)

9.1.3 Name TWO hardware components from the advertisements that play a significant role in the overall performance of the computer. (2)

- 9.2 The desktop computer includes an optical drive.
- 9.2.1 Identify an optical drive in the first advertisement. (1)
 - 9.2.2 Name the latest optical drive available today. (1)
 - 9.2.3 Why is it better to buy a DVD-RW than a DVD-R disk? (1)
- 9.3 The Management Team needs to make a choice regarding software that is needed for the lab.
- 9.3.1 Why would you recommend that they buy an office suite rather than stand-alone applications? (2)
 - 9.3.2 The Management Team does not understand how licencing of software works.

Advise them by briefly explaining to them what type of licence they should buy in order to use the software in the lab. Motivate your answer. (2)
- 9.4 Proprietary software is very expensive so, the Management Team decided to investigate the use of free open source software.
- 9.4.1 Mention TWO advantages (other than costs) of using free open source software. (2)
 - 9.4.2 Mention ONE disadvantage of open source software. (1)
- 9.5 The Management Team also bought a new printer for the learners to print their assignments. When the first learner wanted to print, a message appeared that said the printer driver could not be found.
- 9.5.1 Explain what a *device driver* is. (1)
 - 9.5.2 Suggest TWO places where they could find the driver. (2)
- 9.6 During the process of installing the software an activation code was required.
- 9.6.1 What is an *activation code*? (1)
 - 9.6.2 Name TWO reasons why developers of software use activation codes. (2)
 - 9.6.3 When installing the software the learners were confronted with an option of a *typical*, *custom* or *full* type of installation.

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

- 9.7 After a go-green campaign launched by the land service club of the school, the learners decided to go-green in the computer lab as well.
- 9.7.1 State TWO ways in which the learners can reduce printing in order to save paper. (2)
- 9.7.2 State TWO ways in which they can save on electricity. (2)
- 9.8 A parent of one of the learners donated an SSD for each computer in the lab.
- 9.8.1 Name TWO reasons why adding SSDs to the computers will benefit the learners. (2)
- 9.8.2 Name TWO disadvantages of an SSD. (2)
- 9.9 After losing some of their work as a result of loadshedding, the learners soon realise how important it is to back-up their folders.
- 9.9.1 Name TWO important practices that should be part of a back-up policy. (2)
- 9.9.2 Which storage device is the most suitable for back-ups? (1)
- 9.10 One of the learners downloaded a bursary application form in pdf format.
- 9.10.1 Name TWO reasons why electronic documents are often distributed in pdf format. (2)
- 9.10.2 What software package do you need to view a pdf file? (1)

- 9.11 The learners soon realise that viruses and malware are a big concern, especially in a network environment. It seems that even the anti-virus program that they installed 3 years ago is not effective anymore.
- 9.11.1 Explain to them why it is necessary to update your anti-virus program regularly by explaining how this software works. (2)
- 9.11.2 One of the teachers feels that computers will not get affected by viruses if they are not connected to the Internet.
- Do you agree? Motivate your answer. (2)
- 9.11.3 Name TWO tips on how to prevent computers from being infected by viruses (other than the installing and updating of anti-virus software). (2)
- 9.11.4 After a scan, the antivirus program displays a message saying that a virus was detected and quarantined.
- Explain what it means when a virus is quarantined. (1)
- 9.12 One of the advantages of having a computer lab at the hostel is that learners can communicate easily with learners in other schools via social networking websites.
- 9.12.1 Name TWO popular social networking websites. (2)
- 9.12.2 One of the potential disadvantages of social networking websites, is 'cloning'.
- What do you understand by the cloning of a user's profile? (1)
- 9.12.3 Name TWO other disadvantages of social websites. (2)
- TOTAL SECTION C: 50**
GRAND TOTAL: 150