



SEPTEMBER TRIAL EXAMINATION

GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2
2012

MARKS: 150

TIME: 3 hours

This question paper consists of 12 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of SECTIONS A and B.
2. Answer ALL the questions.
3. ALL questions should be answered from a computer-based perspective.
4. Start each question on a NEW page.

SECTION A

QUESTION 1

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

COLUMN A			COLUMN B
1.1	A small text file that is automatically saved on your computer by a Website	A	UPS
1.2	Communications protocol to deliver voice and other multimedia over the Internet	B	BIOS
1.3	Instructions that are stored on a special memory chip and used to start up the computer	C	CPU
1.4	E-mail sent to you in the form of advertising and chain letters	D	VoIP
1.5	A device that contains surge protection circuits and one or more batteries that can provide power during a temporary or permanent loss of power	E	CMOS
1.6	A combined series of steps and instructions for tasks in an application such as a word processor	F	Cookie
1.7	Electronic book	G	Kindle
1.8	The collection and analysis of large collections of data	H	GPS
1.9	A type of microchip that retains data even when the electricity is switched off	I	Webcam
1.10	An input device that is installed at a location that feeds live images to a web server	J	iPod
		K	Wizard
		L	Data mining
		M	Spam
		N	USB
		O	Hoax

QUESTION 2

Four 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 (2.1 – 2.10) in the ANSWER BOOK, for example 2.11 E.

- 2.1 is a disadvantage of using a network.
- A Sharing of hardware
 - B Sharing Internet connection
 - C Sharing of malware
 - D Sharing software
- 2.2 Which of the following are reasons for using a computer?
- (i) e-Communication saves paper
 - (ii) Outsourcing jobs to foreign countries
 - (iii) Produces error-free results every time
 - (iv) Faster and more accurate than humans
- A All of the above
 - B (i), (iii) and (iv)
 - C (i) and (iv)
 - D (i), (ii) and (iv)
- 2.3 Multicore computers such as dual core or quad core computers, allow a user to....
- A run multiple tasks at the same time
 - B run tasks faster
 - C save on energy
 - D All of the above
- 2.4 Which of the following is UNTRUE about global communication?
- A Global communication can be with anyone around the world.
 - B Blogs and wikis are tools used in global communication.
 - C Global communication is also known as virtual communities.
 - D Global communication takes place in real time.
- 2.5 The following CANNOT be used as a source when performing a mail merge in a word-processing document
- A a database file
 - B a pdf file
 - C a spreadsheet file
 - D a text file

2.6 Which of the following actions performed on a computer without the user being aware of it is NOT typical of a spyware programme?

- A To secretly gather information about the user
- B To update software for the user
- C To report on user actions
- D To track user actions

2.7 are input devices.

- (i) web camera
- (ii) mouse
- (iii) printer
- (iv) scanner

- A (i), (iii) and (iv)
- B (i) and (iv)
- C (ii) and (iii)
- D (i) and (ii)

2.8 can be used as storage devices.

- A External hard drive, USB and MP3 player
- B USB, memory card and cell phone
- C Cell phone and CD drive
- D Cell phone, memory card and external hard drive

2.9 Which ONE of the following upgrades will most likely improve the performance of a PC?

- A Increasing the refresh rate of the monitor
- B Adding a DVD drive.
- C Installing antivirus software
- D Adding more memory (RAM)

2.10 With reference to the adjacent spreadsheet, which answer is CORRECT for cell A6?

- A 2
- B 4
- C 3
- D 1

	A
1	Data
2	Sales
3	
4	19
5	TRUE
6	=COUNTA(A2:A5)

[10]

TOTAL SECTION A: [20]

SECTION B All your answers must be based on the scenario below.

SCENARIO



The 2012 Comrades Marathon was timed using the **ChampionChip Timing** system. The chip which is laced to an athlete's shoe is linked to a database and records the athlete's chip code and time when he/she crosses a reading mat.

QUESTION 3

Specifications	Computer A:	Computer B:
Image	Dell Inspiron N5050 Notebook Series 	Samsung P7500 Galaxy Tab 10.1 3G 
Processor	2nd generation Intel Core i3-2330M processor 2.20 GHz	CPU Dual-core 1 GHz Cortex-A9
Operating System	Genuine Windows 7 Home Basic SP1 64bit (English)	OS Android OS, v3.1 (Honeycomb)
Memory	2GB 1 DIMM (2 GB x1) DDR3 1333Mhz	Internal 16/32/64 GB storage, 1GB RAM
Chipset	Intel HM67 Express Chipset	Chipset Nvidia Tegra 2 T20
Display	15.6" HD WLED True-Life (1366x768)	10.1" PLS TFT capacitive touchscreen, 800 x 1280 pixels
Storage	120GB hard drive (5400RPM)	External Memory : MicroSD (up to 32GB)
Power	6 cell 2.2 Ahr Li-Ion Battery	Standard battery, Li-Po 7000 mAh
Camera	0.3MP Integrated Webcam with built-in analogue microphone	CAMERA Primary 3.15 MP, 2048x1536 pixels, autofocus, LED flash
Wireless	Wi-Fi Options: WLAN Dell Wireless 802.11b/g/n Bluetooth Options:	GPRS Class 12 (4+1/3+2/2+3/1+4 slots EDGE Class 12 , Speed HSDPA, WLAN Wi-Fi 802.11 a/b/g/n, Wi-Fi Direct, dual-band, Wi-Fi hotspot 3G Network HSDPA 850 / 900 / 1900 / 2100 Bluetooth v3.0 with A2DP USB v2.0
Warranty	1 Year On-site warranty	2 Year Carry in warranty

The **Comrades Marathon Association (CMA)** decided to use Computer A above at all the timing points along the marathon route.

- 3.1 Why would some of the officials prefer to use Computer A (a notebook computer) instead of a desktop computer? (3)
- 3.2
 - 3.2.1 List THREE main components that the officials will have to consider before purchasing Computer A and motivate why they need to consider these components. (6)
 - 3.2.2 Which hardware specification of Computer A do you think needs to be upgraded and why? (2)
 - 3.2.3 Which company is the manufacturer of the CPU of Computer A? (1)
 - 3.2.4 Computer B (a Galaxy Tablet 10.1) refers to a dual core processor. Explain briefly what the difference is between a dual core processor and a quad core processor. (2)
 - 3.2.5 What does 15.6" refer to in the advert of Computer A and how is it measured? (2)
 - 3.2.6 Name ONE input device (except the web camera) from the advert for Computer A. (1)
- 3.3 Computer B has a touch screen. Name TWO advantages that a touch screen has over a normal LCD screen. (2)
- 3.4 Most of the officials prefer to use Computer B instead of the notebook.
 - 3.4.1 Name TWO advantages that Computer B has over the notebook. (2)
 - 3.4.2 Name TWO specifications from the advert for Computer B that can be used to transmit data as a backup to another computer. (2)
 - 3.4.3 Most mobile devices are web-enabled devices. Briefly explain what you understand by a web-enabled device. (2)
- 3.5 Explain what is meant by an on-site warranty as found in the specifications for Computer A. (2)
- 3.6 Each official will have access to facilities during the Comrades via a smart card or by means of biometric input (fingerprints).
 - 3.6.1 Explain what a *smart card* is. (2)
 - 3.6.2 Give ONE advantage and ONE disadvantage of biometric input to identify officials. (2)

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QUESTION 4

- 4.1 The CMA installed the Microsoft Office 2010 suite and Windows 7 on the computers on the network to facilitate the capturing of all entries.
- 4.1.1 Which operating system software is used by the Association? (1)
- 4.1.2 List THREE functions of an operating system. (3)
- 4.1.3 Explain TWO advantages to the CMA should they have used an open source office suite such as Libre Office or OpenOffice.org. (2)
- 4.2 One of the computers on the network is a *file server*. Mention TWO advantages of using a file server. (2)
- 4.3 Name TWO computer maintenance tasks or good maintenance habits, besides the regular updating of security software that the CMA should carry out regularly. (2)
- 4.4 Malware, such as viruses and spyware, is a big concern especially in a network environment.
- 4.4.1 What is *spyware*? (2)
- 4.4.2 Name any TWO ways in which a computer can be infected by a virus. (2)
- 4.4.3 Name TWO tips on how to prevent computers from being infected by viruses. (2)
- 4.5 CMA officials spend a considerable amount of hours capturing data of all the athletes which could lead to a number of health issues.
- 4.5.1 List TWO possible health risks that the data capturers could encounter and for each health risk suggest TWO possible measures to prevent the risk. (6)
- 4.6 Athletes wishing to register for the event had a number of blogs that they could visit to stay up to date with information for the Comrades Marathon.
- 4.6.1 What is a *blog*? (2)
- 4.6.2 Name TWO features that distinguish a blog from a normal website. (2)
- 4.7 The CMA is committed to a sustainable environment and practices *green computing*.
- 4.7.1 What is *green computing*? (1)
- 4.7.2 How can the CMA contribute towards e-waste reduction? (2)

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QUESTION 5

As the athletes complete a stage and pass a reading mat, the data from the Championship Chip is wirelessly sent to a network of computers.

- 5.1 Would this network of computers to which the data is being sent be regarded as a LAN or a WAN? Explain your answer. (2)
- 5.2 Name TWO communication methods that can be used to transfer data wirelessly. (2)
- 5.3 List THREE benefits of having a wired (cabled) network instead of a wireless network. (3)
- 5.4 State in each of the following scenarios below whether the technology used is wireless or cabled (wired) and give a brief explanation how the technology works:
- 5.4.1 GPS (Global Positioning System) (2)
- 5.4.2 ADSL (2)
- 5.4.3 3G (2)
- 5.5 The CMA makes use of various communications technologies such as Skype, IM, e-mail and an official website for athletes to stay in contact with family and friends.
- 5.5.1 What does IM stand for and give an example of an application making use of this technology. (2)
- 5.5.2 Give THREE differences between IM and e-mail. (3)
- 5.5.3 Name TWO hardware components required to be able to communicate using an application such as Skype. (2)
- 5.5.4 List TWO disadvantages of using Skype as a means to stay in touch with family and friends. (2)
- 5.6 Name TWO other types of electronic communication technologies (except those mentioned in 5.5 above) which athletes can make use of to stay in touch with their family and friends. (2)

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QUESTION 6

Athletes had the option to register online. The CMA had to consider the available bandwidth before connecting to the Internet.

- 6.1 Why is a broadband connection a good choice? Explain your answer. (2)
- 6.2 Explain the difference between upstream and downstream data transfer on the Internet. (2)
- 6.3 Athletes will make their payments on-line.
 - 6.3.1 Give THREE security features that have been built into Internet banking to make on-line payments safer. (3)
 - 6.3.2 Explain how you would know when a web site you are using is a secured site to do financial transactions on. (2)
 - 6.3.3 Some emails sent to athletes are attempts at *phishing*. Briefly explain what *phishing* is. (4)
- 6.4 Explain the difference between the following:
www.absa.co.za and andy@fnb.co.za (2)
- 6.5 The CMA received an e-mail from one of the athletes. All the text in the e-mail was in capital letters and did not adhere to the rules of netiquette.
 - 6.5.1 Explain the term *netiquette* and name THREE netiquette rules to keep in mind when adding and sending e-mail attachments. (4)
- 6.6 Some athletes wanted to complete their forms while waiting at the airport. Airports are *Wi-Fi zones*.
 - 6.6.1 What is a *Wi-Fi zone*? (2)
 - 6.6.2 Explain how a notebook connects to a wireless network. (3)

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QUESTION 7

As seen above, the CMA makes use of an office suite to lighten their administrative burden.

7.1 A report must be compiled in a word processing application for the Department of Sport and Recreation.

7.1.1 Name TWO ways to insert a report from the database into a word processing document. (2)

7.1.2 After the document has been completed, it looks very untidy because wherever a URL appears, the text is underline in blue. Explain why the blue underlining appears. (2)

7.2 While compiling the report the secretary of the CMA experiences the following problems. For each problem indicate why it occurs and how it can be solved.

7.2.1 The word processing program highlights words that she is sure are correct, as being spelt incorrectly, e.g. "color" instead of "colour". (2)

7.2.2 When editing the document she finds that the existing text is replaced with the new text while she is typing. (2)

7.3 A graph/chart of the completion time of each athlete must be produced in a spreadsheet. Explain how the graph can be inserted into the word processing document without having to redo it every time the spreadsheet is updated. (2)

7.4 Write down the name of the spreadsheet function (chosen from the list below) that you would use for each of the following:

COUNTIF; MAXIMUM; SUM; SUMIF; MODE; TOTAL; COUNT; AVERAGE; VLOOKUP

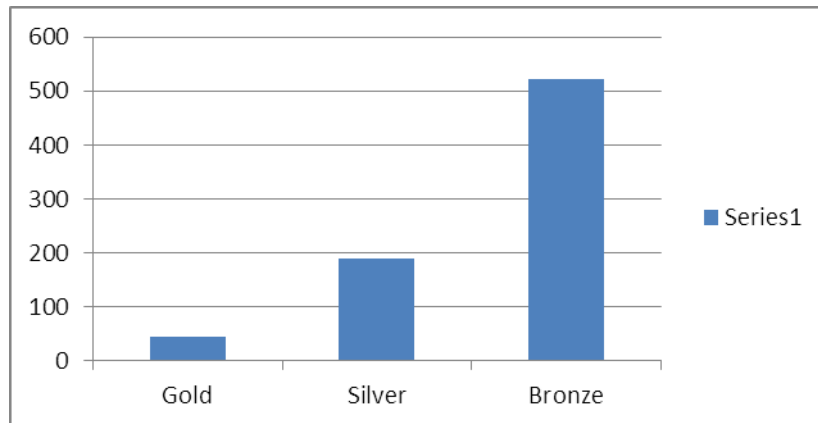
7.4.1 To determine the total number of medals awarded to male athletes. (1)

7.4.2 To determine how many athletes finished the race in less than 2 hours. (1)

7.4.3 To determine the most common number of medals awarded. (1)

7.4.4 To determine whether an athlete will receive a gold or silver or bronze medal. (1)

- 7.5 The graph/chart below was created to show how many gold, silver and bronze medals were awarded. Name the THREE most essential items that should be added to make this chart meaningful and easier to interpret.



(3)

- 7.6 All registration information has been captured in a database table. Which field properties of the data types need be changed to:

- 7.6.1 Limit the **First Name** field to 15 characters. (1)
- 7.6.2 Set the status as "Finished" for all athletes. (1)
- 7.6.3 Restrict input in the **Gender** field to "male" and "female" only. (1)
- 7.6.4 Allow only two letters and two numbers to be used as the registration number. (1)
- 7.6.5 Ensure that the **RaceID** field cannot be left blank. (1)

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TOTAL SECTION B: 130

GRAND TOTAL: 150