

THE UNIVERSITY OF AUCKLAND

SUMMER SEMESTER, 2020

Campus: City

COMPUTER SCIENCE

An Introduction to Practical Computing

TEST

(Time Allowed: ONE hour)

DIRECTIONS

1. Compare the test version number on the Teleform sheet supplied with the version number in the top left corner of this page. If they do not match, ask the test supervisor for a new sheet.
2. Enter your name and Student ID (in pencil) on the Teleform sheet and shade in the corresponding bubbles underneath. Your name and Student Id should both be entered left aligned. If your name is longer than the number of boxes provided, truncate it.
3. Answer all questions on the Teleform answer sheet provided.
4. Use a dark pencil to shade in your answers in the multiple choice answer boxes on the Teleform sheet. Check that the question number on the sheet corresponds to the question number in this question book. If you spoil your sheet, ask the supervisor for a replacement.
5. Each question is worth 2.5 marks. There are 40 questions.
6. Calculators are NOT permitted.

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MULTIPLE CHOICE QUESTIONS

For each question, choose the best answer according to the information presented in lectures. Select your preferred answer on the Teleform answer sheet by shading in the appropriate box in pencil. There are 40 questions. Each question is worth 2.5 marks.

The following specifications are used to answer Questions 1 – 3:

AMD Ryzen 5 3600 processor, 6 Core 12 Thread 4.2GHz;
Gigabyte B450M DS3H Wi-Fi Motherboard, 4 x PCIe and 4 x SATA with RAID 0, 1 and 10 support, 4 x USB 3.1 5Gbps, 100 Gigabit Ethernet, Onboard Audio, WiFi 802.11AC 5GHz;
Corsair Vengeance LPX 16GB (2x8GB) DDR4-2666MHz Memory Kit;
Gigabyte 480GB 2.5" SSD; ASUS GeForce GTX 1660 6GB 1530MHz Graphics Card;
Silverstone SST-ET550-G 550W 80Plus Gold Power Supply 60Hz;
Deepcool GAMMAXX GTE RGB CPU Cooler;
Corsair 275R Airflow Tempered Glass Mid-Tower Gaming Case.

Question 1

[2.5 marks] What is the speed of the CPU?

- (a) 1530 MHz
- (b) 5 GHz
- (c) 60 Hz
- (d) 4.2 GHz
- (e) 2666 MHz

Question 2

[2.5 marks] How much RAM does the computer have?

- (a) 16 GB
- (b) 480 GB
- (c) 6 GB
- (d) 3600 GB
- (e) 8 GB

Question 3

[2.5 marks] What is the speed of the GPU (not the CPU)?

- (a) 5 GHz
- (b) 60 Hz
- (c) 1530 MHz
- (d) 2666 MHz
- (e) 4.2 GHz

Question 4

[2.5 marks] What is the binary representation of the decimal number 14?

- (a) 1110
- (b) 1111
- (c) 1101
- (d) 1011
- (e) 0111

Question 5

[2.5 marks] What is the decimal representation of the following $11001 + 111$?

- (a) 62
- (b) 22
- (c) 30
- (d) 64
- (e) 32

Question 6

[2.5 marks] Which is the correct ordering of the following prefixes?

- (a) tera > tebi > giga > gibi > kibi
- (b) pebi > mebi > tebi
- (c) tebi > tera > gibi > giga > kibi
- (d) tera > kilo > mega
- (e) kilo > mega > giga

Question 7

[2.5 marks] Which of the following is NOT application software?

- (a) Virus removal
- (b) Word processing
- (c) Open source game
- (d) Scientific simulation
- (e) Video player

Question 8

[2.5 marks] Which one of the following is an advantage of a CLI?

- (a) It uses windows, pointers, icons and menus.
- (b) CLI is the standard way to use mobile touch-screens.
- (c) Commands can be easily combined to complete more complex tasks.
- (d) It is generally easy to use for new users.
- (e) It can be difficult to understand the commands.

Question 9

[2.5 marks] Which one of the following statements about file format is TRUE?

- (a) File formats need to be approved by the ISO.
- (b) The file extension determines if the file is used by a CLI or a GUI.
- (c) All file extensions must be 3 letters in length.
- (d) Plain text files must have the .doc extension.
- (e) Renaming a file extension from .jpg to .png does not change the file format.

Question 10

[2.5 marks] Which one of the following statements about networking is FALSE?

- (a) The Internet today uses packet-switching rather than circuit-switching.
- (b) The first computer network was created by ARPANET during World War II.
- (c) ARPANET is no longer active today.
- (d) TCP/IP was adopted by ARPANET in the early 1980's.
- (e) The first transmission of data through telegraph wires occurred in 1940.

Question 11

[2.5 marks] What is the difference between HTTP and HTTPS?

- (a) HTTPS is an extension to HTTP that uses an encryption layer.
- (b) HTTPS is used to transfer software whereas HTTP is used to transfer files.
- (c) HTTPS is a more streamlined version of HTTP that has been designed for mobile devices.
- (d) HTTPS is used when the data rate is slow, whereas HTTP is used when the data rate is fast.
- (e) HTTPS is for static content and HTTP is used for dynamic content.

Question 12

[2.5 marks] Which one of the following is NOT a protocol used during the transfer of data using the Internet?

- (a) TCP/IP
- (b) ISP
- (c) HTTP
- (d) FTP
- (e) IMAP

Question 13

[2.5 marks] What is the purpose of a DNS?

- (a) Connect multiple devices to the same network.
- (b) Break a message up into packets and recombine them into a message.
- (c) Determine if an error has occurred during data transfer.
- (d) Modulate and demodulate data.
- (e) Convert an address readable by a human into an IP address.

Question 14

[2.5 marks] Which one of the following is not a valid email field?

- (a) Subject
- (b) Sender
- (c) Signature
- (d) CC
- (e) BCC

Question 15

[2.5 marks] Which one of the following statements is TRUE?

- (a) Email messages are private and cannot be accessed by a system administrator without your password.
- (b) IMAP is a protocol used to receive mail from a server.
- (c) If an email message contains malware then it is known as SPAM.
- (d) POP3 is a protocol used to send mail to a server.
- (e) The Unsolicited Electronic Messages Act 2007 requires all messages to include a signature.

Question 16

[2.5 marks] Given the email address `hello@how.are.you.com`, which is the domain name?

- (a) hello
- (b) are.you
- (c) how.are.you
- (d) how.are.you.com
- (e) .com

Question 17

[2.5 marks] Which one of the following is NOT a microblogging platform?

- (a) Instagram
- (b) Twitter
- (c) Tumblr
- (d) Pinterest
- (e) WordPress

Question 18

[2.5 marks] Which one of the following is the Wiki markup used to indicate a section heading?

- (a) `''heading''`
- (b) `==heading==`
- (c) `#heading`
- (d) `''''heading''''`
- (e) `*heading`

Question 19

[2.5 marks] Which one of the following statements is FALSE?

- (a) Wiki pages are authored using plain text with markup to indicate formatting.
- (b) Vandalism of Wikipedia pages is managed by both automated and manual processes.
- (c) Some content in Wikipedia is inaccurate.
- (d) A history of changes to a Wikipedia page is visible to everyone.
- (e) Changes to content in Wikipedia must be approved by moderators before they are visible to the public.

Question 20

[2.5 marks] Which one of the following statements is TRUE?

- (a) Vannevar Bush invented HTML in the 1940's.
- (b) Hypertext was invented by Tim Berners-Lee in 1989 in his paper "Information Management: A Proposal".
- (c) The World Wide Web was created by Tim Berners-Lee and became operational in the early 1990's.
- (d) The WWW standards are maintained by the International Standards Organization (ISO).
- (e) The Xandadu Project started at CERN in 1989 and later became the WWW.

Question 21

[2.5 marks] Which one of the following statements is FALSE?

- (a) Internet Service Providers keep a record of the web pages accessed by their customers.
- (b) A web cache stores a copy of web pages accessed by a client.
- (c) Google search results are personalized, so different people often see different results.
- (d) A firewall is designed to prevent unauthorized access to a network.
- (e) A web spider is software that is used to remove personal information from a search when requested by users.

Question 22

[2.5 marks] Given the URL `https://www.banana.co.nz/yellow/recipe.html`, what is the protocol?

- (a) html
- (b) recipe
- (c) https
- (d) yellow
- (e) www.banana.co.nz

Question 23

[2.5 marks] Which one of the following statements is FALSE?

- (a) Using the "private" or "incognito" tab in a standard browser prevents an ISP from recording browsing history.
- (b) A website can store information on your computer using a "cookie".
- (c) In some countries, laws require ISPs to record the IP addresses allocated to their customers.
- (d) Using Tor provides protection from network surveillance during data transportation.
- (e) Websites can record the IP address of the person requesting information.

Question 24

[2.5 marks] Which one of the following statements about NZ law is FALSE?

- (a) If the author of harmful content doesn't respond to a request to remove the content then the host must remove the content within 48 hours.
- (b) The Harmful Digital Communications Act 2015 is designed to prevent copyright infringement.
- (c) The host of harmful content must ask the author to remove the content if they receive a complaint, otherwise they may be liable for the damage caused.
- (d) If the author of harmful content refuses to remove it then the host can't do anything about it.
- (e) Software is protected by copyright law in a similar way to other authored content.

Question 25

[2.5 marks] Which one of the following statements is FALSE?

- (a) A blacklist of IP addresses can be used to prevent access to locations on the list.
- (b) Users that fail to comply with copyright can be given 2 warning notices by their ISP before an enforcement notice is issued.
- (c) All material viewed in NZ must comply with NZ laws regardless of the country of origin.
- (d) Peer to Peer (P2P) networks using BitTorrent are illegal.
- (e) A whitelist of IP addresses can be used to prevent access to all locations that are not on the list.

Question 26

[2.5 marks] Which of the following is the ASCII code for LaTeX?

- (a) 108 65 116 69 120
- (b) 75 98 85 102 89
- (c) 76 97 84 101 88
- (d) 109 66 117 70 121
- (e) 76 66 84 70 89

Question 27

[2.5 marks] Which of the following statements about user-defined styles in MS Word are TRUE?

- I.** A style is a named group of formatting changes.
- II.** Using styles gives your document a consistent appearance.
- III.** Using styles may reduce the amount of time required to format your document.
- IV.** When a style is modified, content using that style is updated automatically.

- (a) I and III.
- (b) III and IV.
- (c) I, II, and IV.
- (d) II and III.
- (e) I, II, III and IV.

Question 28

[2.5 marks] Which of the following statements about breaks in MS Word are TRUE?

- I. A page break marks where the content in the body of the current page ends.
- II. Sections separated by section breaks within the same document always share the same formatting.
- III. Section breaks mark the point where one section ends and a new one begins.
- IV. With a continuous section break, the new section begins on the next page after the original section.

- (a) II and IV.
- (b) I, III and IV.
- (c) I, II, III and IV.
- (d) I and III.
- (e) I, II, and III.

The following **four** questions refer to the spreadsheet below:

	A	B	C	D	E	F	G
1	Stage	Price	Fantasy Football Cup 2020				
2	Group Stage	\$50.00					
3	Second Round	\$75.00					
4	Quarter-final	\$100.00					
5	Semi-final	\$125.00		Discount	15		
6	Final	\$150.00					
7							
8	Orders						
9	Order Number	Stage	Number of Tickets	Ticket Price	Prelim Price	Discount	Final Price
10	0	Second Round	2	\$75.00	\$150.00	\$0.00	\$150.00
11	1	Final	3	\$150.00	\$450.00	\$67.50	\$382.50
12	2	Semi-final	1	\$125.00	\$125.00	\$0.00	\$125.00
13	3	Group Stage	6	\$50.00	\$300.00	\$45.00	\$255.00
14	4	Quarter-final	5	\$100.00	\$500.00	\$75.00	\$425.00

Question 29

[2.5 marks] **Cell G10** contains the final price of Order 0, which is calculated by applying the discount to the prelim price. Which of the following Excel formulas would you use in Cell G10 to perform this calculation? Your formula should fill down correctly from Cell G10 to Cell G14.

- (a) =E10-\$F\$10
- (b) =E\$10-F\$10
- (c) =E10-F10
- (d) =\$E\$10-F10
- (e) =\$E\$10-\$F\$10

Question 30

[2.5 marks] **Cell E10** contains the price of buying 2 tickets to a second-round match at the Fantasy Football Cup 2020. Which of the following Excel formulas would you use in **Cell E10** to perform this calculation? Your formula should fill down correctly from Cell E10 to Cell E14.

- (a) =D\$10*C\$10
- (b) =D10*C10
- (c) =\$D\$10*\$C\$10
- (d) =\$D\$10*C10
- (e) =D10*\$C\$10

Question 31

[2.5 marks] **Cell D10** contains the price per ticket to a second-round match at the Fantasy Football Cup 2020. Which of the following Excel formulas would you use in **Cell D10** to produce the given result? Your formula should fill down correctly from Cell D10 to Cell D14.

- (a) =VLOOKUP (B10, A2 : B6, 2, FALSE)
- (b) =VLOOKUP (B10, A2 : B6, 2, TRUE)
- (c) =VLOOKUP (B10, A2, B6, 2, FALSE)
- (d) =VLOOKUP (B10, \$A\$2 : \$B\$6, 2, TRUE)
- (e) =VLOOKUP (B10, \$A\$2 : \$B\$6, 2, FALSE)

Question 32

[2.5 marks] **Cell F10** contains the discount applied to the prelim price of Order 0. If the prelim price is \$200 or more, the discount, specified as a percentage in Cell E5, is applied to the prelim price. Otherwise the discount is set to 0. Which of the following Excel formulas would you use in **Cell F10** to perform this calculation? Your formula should fill down correctly from Cell F10 to Cell F14.

- (a) =IF (E10>=200, E10* (\$E\$5/100) , 0)
- (b) =IF (E10>=200, E10*E5, 0)
- (c) =IF (E10>=200, E10* (E5/100) , 0)
- (d) =IF (E10>=200, E10*\$E\$5, 0)
- (e) =IF (E10>200, E10* (E5/100) , 0)

Question 33

[2.5 marks] Which of the following is NOT good advice for healthy use of technology?

- (a) Pay attention to your workspace.
- (b) Post more selfies on social media.
- (c) Take regular work breaks.
- (d) Pay attention to your entertainment space.
- (e) Maintain a healthy lifestyle.

Question 34

[2.5 marks] Which of the following is NOT a measure that can be taken to prevent OOS?

- (a) Use lubricating eye drops.
- (b) Find out more about OOS prevention.
- (c) Avoid prolonged, repetitive movement.
- (d) Manage stress levels.
- (e) Maintain correct posture when working.

Question 35

[2.5 marks] Jake has a very active social media presence, which consists almost entirely of selfies and self-promotional status updates. Given Jake's social media profile, which of the following statements best describes his behaviour?

- (a) He may be suffering from OOS.
- (b) He may be depressed.
- (c) He may be suffering from CVS.
- (d) He is displaying characteristics of narcissism.
- (e) He has difficulty with social interactions.

Question 36

[2.5 marks] Kate frequently looks at her mobile phone – when she's walking around campus, in lectures, while out with friends, and when watching television. Which of the following terms best describes Kate's use of her mobile phone?

- (a) Cognitively penetrating.
- (b) Emotionally contagious.
- (c) Narcissistic.
- (d) Instantly gratifying.
- (e) Checking.

Question 37

[2.5 marks] You have one 8-colour image taken by an 8-megapixel camera and eight black and white pictures taken with a 1-megapixel camera. How much memory in total do you need to store these images on your computer?

- (a) 1 MB of RAM.
- (b) 1 GB of hard disk space.
- (c) 4 MB of hard disk space.
- (d) 3 MB of hard disk space.
- (e) 4 MB of RAM.

Question 38

[2.5 marks] You have a 2-megapixel camera that can take 16-colour images. Your camera has 100 MB of memory space. You have taken 10 images. How many more images can you take with your camera?

- (a) 5 images.
- (b) 9 images.
- (c) 1 image.
- (d) 90 images.
- (e) None, the memory is full.

Question 39

[2.5 marks] Your manuscript has been accepted for publishing. The manuscript has several plots depicting histograms, charts and boxplots (similar to what you can get from Microsoft Excel). The journal guidelines for the final version of the manuscript tell you that the quality of the images is important, that it accepts any image format, but you have a limit on the memory size of the colour images. Which option is the most suitable one if you do not want to have issues with the publishing process and the quality of the printed manuscript?

- (a) Only PNG.
- (b) Any vector graphics format.
- (c) Any bitmap graphics format.
- (d) GIF for boxplots, but JPEG for the other charts and histograms.
- (e) None of the above.

Question 40

[2.5 marks] Your printer prints 50 dots per cm. Your printer paper has size 50 cm x 50 cm. Assuming that your printer can print on this paper and no other transformation on the original image, will a square image taken with a 25-megapixel digital camera fit on a single printed page?

- (a) No, only $1/25$ of the image will fit on a single page.
 - (b) No, only $1/4$ of the image will fit on a single page.
 - (c) Yes, but it only takes $1/2$ of the page.
 - (d) Yes, it fits perfectly on a single page.
 - (e) None of the above.
-