Computing Revision TEST (Grade 7) Unit 3: Networks & Digital Communication Unit 1: Computational thinking & Programming		Name:	Hafsa Belal
Date:	Section: Mars	Marks [total 25]:	

1. Fill in the blanks using the words given in word bank. NOT all the words will be used. **[5]**

decryption	cipher	path	Boolean	variable	protocol	URL
terminator	mistake	corruption	web browser	encryption	flowchart	surge

i. Data encryption prevents data from being stolen by a hacker.
ii. An error means mistake/corruption in data.
iii. A flowchart is a diagram that shows a sequence of steps that should be followed to execute and algorithm.
iv. When there is sudden increase in the voltage of the electricity supply this is called an electricity surge.
v. The value stored in a variable can be changed or updated.
vi. When you want to look for a web page on the internet, you open a web browser.
vii. The name of a particular file in a website, which follows the domain name after a '/' is called a path.
viii. The protocol in the URL ensures that the encrypted data will be sent and received between the devices safely and securely.
ix. Plain text can be converted into ciphertext using a cipher.
x. A boolean operator returns result as TRUE or FALSE only.

2. This text has been encrypted using the Caesar cipher. The first letter **"F"** is actually a **"C"** when it is decrypted. What does the message say? **[3]**

FRPSXWLQJ KHOSV WR VROYH SUREOHPV ORJLFDOOB.

COMPUTING HELPS TO SOLVE PROBLEMS LOGICALLY.

F
C

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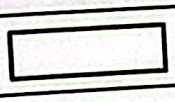
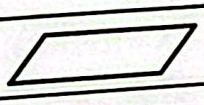
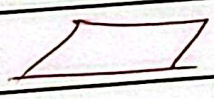
3. Choose the most appropriate cause of data corruption (electricity surge / radio-wave interference / cross-talk) in the situations below. [3]

	Situation	Cause of error
i.	A Bluetooth speaker placed near a router causes internet speed to drop temporarily.	2
ii.	An unexpected power fluctuation shuts down a computer while saving a file, corrupting the document.	1
iii.	Two Ethernet cables placed too close together cause data packets to mix, slowing down the network.	3
iv.	A generator turning on suddenly sends a surge that damages office computers.	1
v.	Poorly shielded LAN cables placed together result in noisy data signals.	3
vi.	A security walkie-talkie interferes with wireless CCTV camera signals.	2

4. Fill the blanks with either purpose or the shape/name of shape in a flowchart. [2]

Shape	Purpose
	Processing (for performing calculations etc.)
	Show you the direction of flow. flow(line)
	Parallelogram — Used for both input & output - For taking data from the user (input)
	

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5. **How does a DNS work? Describe in 4 to 5 steps.** **[3]**

(1) The browser sends the domain name entered by user to the DNS (Domain Name System) server.
(2) The DNS finds the matching IP address of the domain name
(3) If found, the IP is sent via the browser to the correct web server to load the website.
(4) If not found, the DNS sends back an error message to the browser.

6. **How can you tell if a website is secure? List TWO points.** **[2]**

i. "https" protocol is used.

ii. padlock sign / digital certificate

7. ***Read the steps of the flowchart below and answer the questions that follow:***

- *Enter a number as input.*
- *Add 30 to the number and then multiply the result by 2.*
- *Display the final result.*

a. What do we call the number in which the user's input is being taken? **[1]**

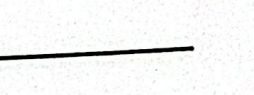
Variable.

b. If the number taken as input from the user is **3**, what will be the final output? **[1]**

(30+3) * 2 = 33 x 2 = 66 ← final output

c. What flowchart sign is used to start or end a flowchart? **[1]**

Terminator (Oval)



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8. What are **comparison operators**? Name at least **two** comparison operators used in programming. **[2]**

Definition: Comparison operators are used when a decision has to be made after two ~~four~~ values are compared. The answer of the comparison can be either TRUE or FALSE.

i. > (greater than)

ii. < (Smaller than)

9. Read the statements below and draw a flowchart which calculates the difference between your birth year and the current year. Follow the steps given below. **[2]**

1. Take input **num1** as your birth year.
2. Take input **num2** as your current year.
3. Subtract **num1** from **num2** and store inside variable **result** (this is basically subtracting your birth year from the current year).
4. Display/output **result**.