2020 Computing Sec 4 Prelim Paper 1 Marking Guide

Qn	Answer & Marking Guide
1a	A1: Text
	A8: Date
	B1: Currency
1bi	*Correct formula and arguments* = PMT(B2/12,B3,B1)
1bii	*Correct formula and arguments* =SUM(B8:B10)
1biii	*Correct formula and arguments, accept arguments from other columns* =COUNTA(B8:B10)
1biv	*Correct formula and arguments* =ROUND(E2,0)
2ai	*One mark for correct answer, one mark for correct working.* E8
2aii	*One mark for correct answer, one mark for correct working.* 166
2aiii	*One mark for correct answer, one mark for correct working.* 1001 1111
2b	Any 2 answers from below: RGB colour codes Memory dumps ASCII and Unicode URL encoding

3a

one mark for columns a,b
one mark for columns c,d
one mark for each of the remaining columns

a	b	c	d	x	y	Output
3	4	2	1	0	1	
	2	4		1	4	
		1	4	1	4	
2	3			0	3	
	1	3		1	3	
				1		
1	2			0	2	
				1		
				0		1 2 3 4

3b

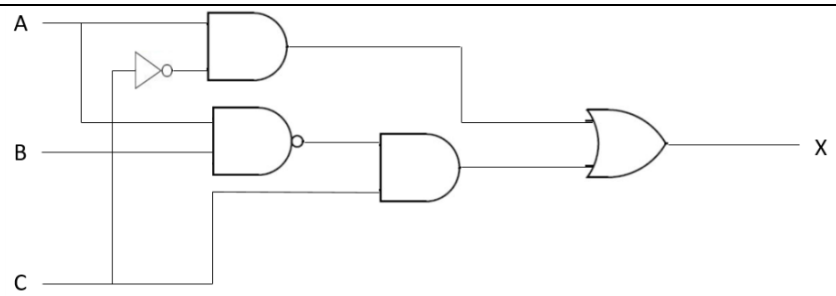
The algo sorts the stored numbers

3c

x keeps track of swaps/changes in the sequence
y is for swapping of values

4

Term	Description
Wide Area Network (WAN)	Network of devices covering multiple large-scale geographical locations
Transmission medium	A means of connecting computers together, such as using copper cables, radio wave or light pulses
Wired network	Network of devices connected by a physical medium such as cables
Wireless access point (WAP)	A device that provides connection between wireless devices up to 100 metres away and can connect to wired networks.
bandwidth	The average number of bits of data that can be transmitted from a source to a destination over the network
	Network of computing devices typically spanning across two or more buildings within the same town or city

5	Register RAM ROM External Storage Solid-state
6a	Any 2 from below: • technology has enabled more exciting and engaging forms of entertainment • online games can bring participants together in the real world • some people may be addicted to computer games or social networking sites • people may become deficient in real-life social skills or abandon their responsibilities
6b	Any 2 from below: • new opportunities being opened up by the rise of high quality virtual reality, augmented reality and motion-tracking revolutionize the motor industry • businesses are also using monitoring technology and strategies from game design to provide rewards and incentives at work
6c	Any 1 from below: • Whether financial tech should be limited to protect vulnerable users • Is it safe/acceptable for financial markets to be controlled by algos instead of humans
7a	• Make regular backups of data • Set up a backup power supply or uninterruptible power supply (UPS) so storage devices can complete any write operations in case of a power failure.
7b	Trojan horse: • program that pretends to be a harmless file or useful application • once run, it does something harmful such as giving intruders unauthorised access Pharming: • interception of requests sent from a computer to a legitimate website and redirection to a fake website • steal personal data or credit card details/More difficult to detect than phishing as fake website uses same address as the real one
7c	Any 1 of the following: • phishing • virus • cookie • spam • spyware • worm
8ai	NAND
8aii	OR
8b	 1 mark for each correct gate in the right place

8c *one mark for every two correct rows*

A	B	C	Working Space	X
0	0	0		0
0	0	1		1
0	1	0		0
0	1	1		1
1	0	0		1
1	0	1		1
1	1	0		1
1	1	1		0

9 one mark for each correct identification, one mark for each correct correction

Line 1
`For Index = 0 to` **`19`**
or `For Index = 1 to 20 and update line 8 for 1 mark`

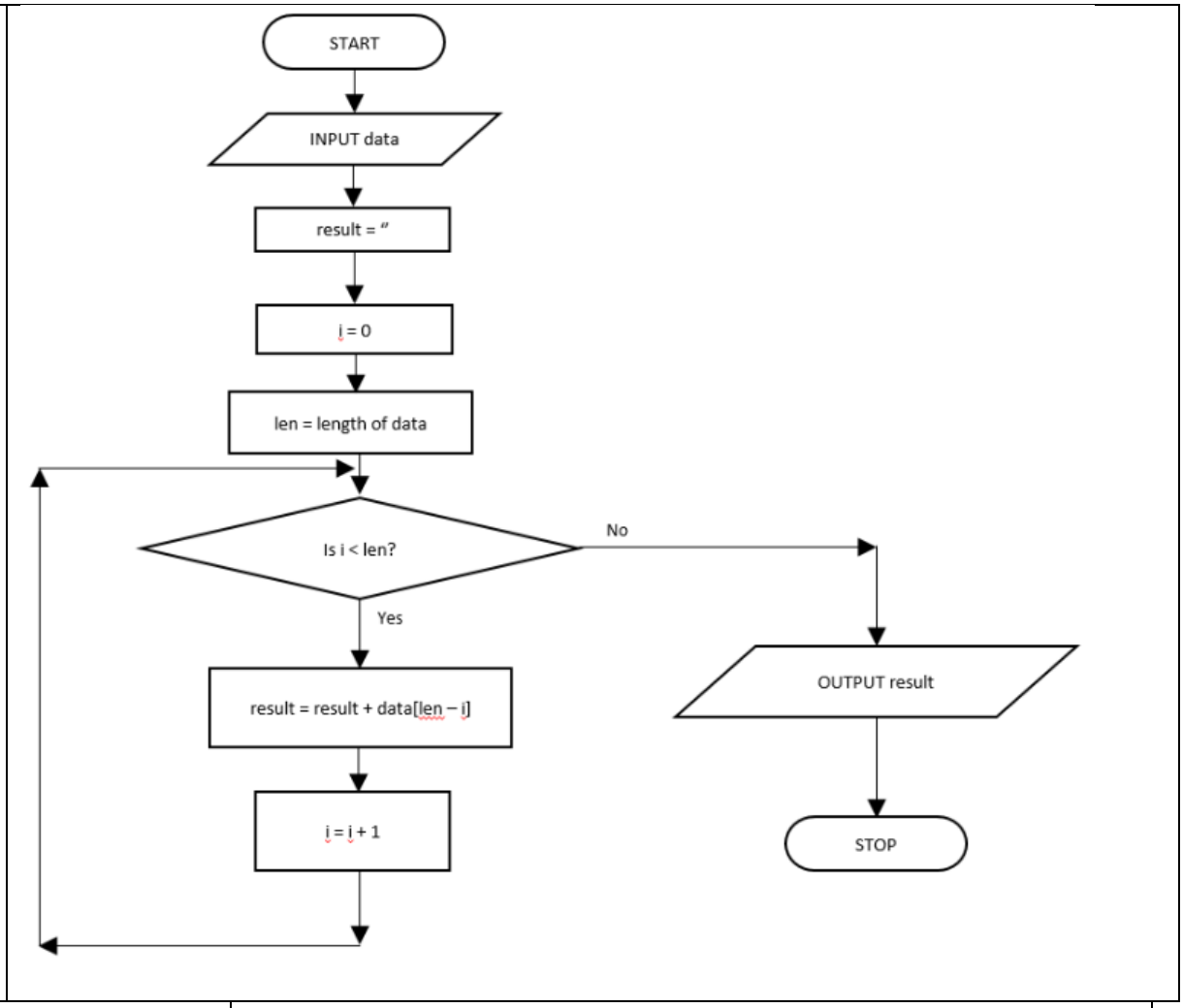
Line 3
`INPUT Numbers[`**`Index`**`]`

Line 7
`Count =` **`0`**

Line 12
`NEXT` **`Index`** or `NEXT`

10 *one mark each*

- Input string
- Initialize result string and Initialise index
- Use of loop
- with correct management of index
- update of result…
- with correct string slicing
- Output result



11	*one mark each* - Initialization of variables - loop 40 iterations to input from user - while loop validation and re-input - loop for processing or appropriate initialization for lowest variable - update of lowest score and highest score - correct calculation of average - Output of 3 scores Sample Algo: Highest = 0 Total = 0 Result = [] FOR i = 0 to 39 INPUT Result[i] WHILE result[i] <0 or result[i]>10 INPUT result[i] ENDWHILE NEXT Lowest = Result[0] FOR i = 0 to 39 IF Result[i] < Lowest

	Lowest = Result[i] ENDIF IF Result[i] < Highest Highest = Result[i] ENDIF Total = Total + Result[i] NEXT OUPUT Total/40 OUPUT Lowest OUTPUT Highest