



Bishop Challoner

Computer Science Department

Teacher Contacts

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Year 11 Computing – Offsite Work – Week 4

Due: 1st May 2020

Instructions

1. Complete the topic questions on the PDF or in a Word document (provide question numbers) and email your answers to Mr Ebrahim and Mr Khitab. Please include your name and date in the filename. For example, a student called Liam Smith should call the Word document 'topic questions – Liam Smith – 01-05-20'.
2. Engage with the practical lessons on code.org
3. Complete the further revision exercise.
4. Optional – please submit any creations you have made on the Python Turtle activities.

Further Revision (this does not need to be submitted)

Week four (26th April to 1st May) : Read the pages 8 to 10 on the blue OCR “The Revision Guide” booklet about a computer CUP and complete the exercise on the accompanied OCR “Practice Workbook” page 11 to 13. You can learn more by watching:

https://www.youtube.com/watch?v=dJH_ev7DR5I

<https://www.youtube.com/watch?v=8oMmtm4zJ2E>

Practical Lesson(s)

Lesson 3 - Please go to studio.code.org/s/course4. When you get there complete lessons 14 and 16, although this is block based programming, the concepts remain the same and therefore the lessons learnt from this are applicable to pseudocode and programming languages.

Please feel free to create yourself an account.

Bonus!

Go to:

https://repl.it/languages/python_turtle

Follow the instructions (and examples if needed) on how to use Python Turtle.
For those who want the challenge, what is the most complex thing you can create? If you believe you have created something good email it to the teachers emails above!

This weeks theme: Technology!

Computer Science (9-1)

Computational logic

Mr Ebrahim

Please note that you may see slight differences between this paper and the original.

Candidates answer on the Question paper.

OCR supplied materials:
Additional resources may be supplied with this paper.

Other materials required:

- Pencil
- Ruler (cm/mm)

Duration: Not set

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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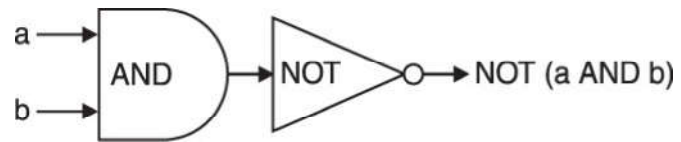
INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions, unless your teacher tells you otherwise.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Where space is provided below the question, please write your answer there.
- You may use additional paper, or a specific Answer sheet if one is provided, but you must clearly show your candidate number, centre number and question number(s).

INFORMATION FOR CANDIDATES

- The quality of written communication is assessed in questions marked with either a pencil or an asterisk. In History and Geography a *Quality of extended response* question is marked with an asterisk, while a pencil is used for questions in which *Spelling, punctuation and grammar and the use of specialist terminology* is assessed.
- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **19**.
- The total number of marks may take into account some 'either/or' question choices.

1. The following logic diagram shows the expression NOT (a AND b).



Complete the missing boxes in the truth table below to show the value of NOT (a AND b) that will be output for each possible set of values of a and b.

a	b	NOT (a AND b)
0	0	1
0		1
1	0	

[4]

2(a). The logic diagram below (Fig. 2) shows a system made up of two connected logic gates.

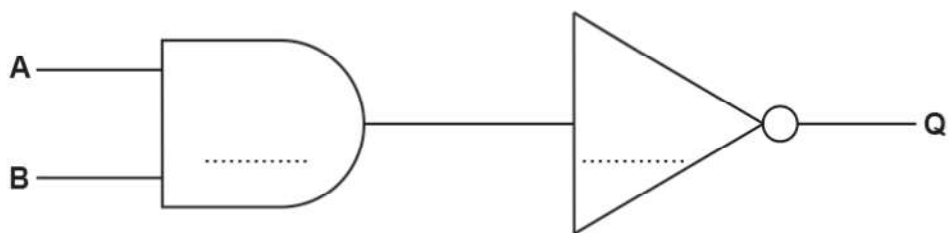


Fig.2

(i) Label the names of the two gates on the diagram above.

[2]

(ii) Complete the truth table below to show the output from this logic system.

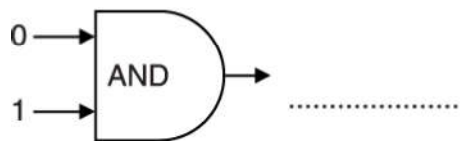
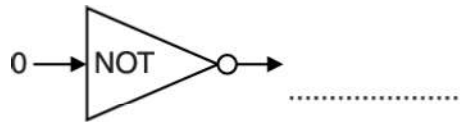
A	B	Q
0	0	
0	1	
1	0	
1	1	

[4]

(b). Draw the logic diagram represented by $Q = AV\bar{B}$

[2]

3. State the output of each of the following logic circuits for the inputs given.



[2]

4. Complete the truth table below for the Boolean statement $p = \text{NOT}(A \text{ AND } B)$.

A	B	P
FALSE	FALSE	TRUE
FALSE	TRUE	
TRUE	FALSE	
TRUE	TRUE	FALSE

[2]

5. Fig. 1 is a circuit diagram.

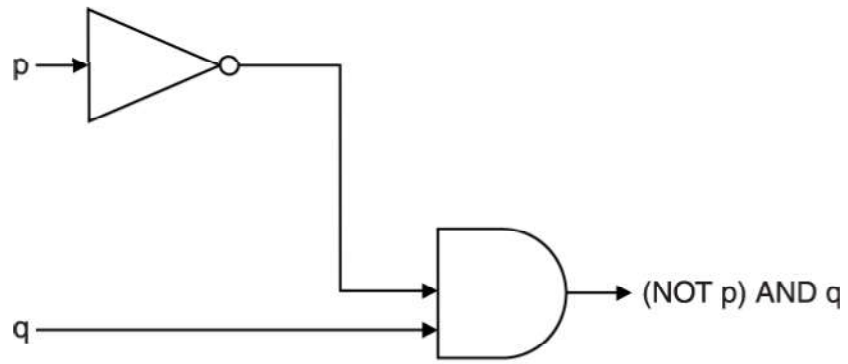


Fig. 1

Complete the truth table for Fig. 1.

p	q	(NOT p) AND q
0	0	0
1	0	0

[3]

END OF QUESTION PAPER