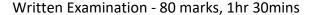
#### **OCR Computer Science J277**





You will sit one paper, which will be Component 2 only

## Component 2 - Computational thinking, algorithms and programming

## 2.1 Algorithms

Computational thinking, searching algorithms (linear, binary), sorting algorithms (bubble, insertion and merge),

### 2.2 Programming fundamentals

Variables, constants, boolean operators (AND,OR,NOT), comparison & arithmetic operators, programming fundamentals: sequence, selection & iteration, the use of data types (integer, real, strings, boolean & casting), random number generation and the use of sub programs.

# 2.3 Producing robust programs

Maintainability (commenting, indents, naming conventions, use of sub programs).

Testing – syntax & logic errors, using test data (normal/valid, extreme/boundary & erroneous data)

# 2.4 Boolean logic

Logic diagrams using AND ( $^{\wedge}$ ), OR ( $^{\vee}$ ), NOT ( $^{\neg}$ ), truth tables, combining to two levels i.e. NAND, NOR.

#### 2.5 Programming languages and integrated development environments

Languages — characteristics & purpose of high-level & low-level programming languages, purpose of translators, characteristics of a compiler and interpreter.

The integrated development environment – common tools & facilities (editors, error diagnostics, runtime environment, translators)

#### 1) Personal Learning Checklist for both Components:

https://www.blessededward.co.uk/wp-content/uploads/2021/10/PLC-Computer-Science-Yr-11.pdf

This should be used to identify areas that you're not sure of.

# 2) Please use the following links to aid revision:

- 1) OCR Past Papers <a href="https://tinyurl.com/y5eksx9b">https://tinyurl.com/y5eksx9b</a>
- 2) Teach-ICT https://tinyurl.com/yn9dsekf
- 3) Low Stakes quizzes <a href="https://tinyurl.com/3hvbczfw">https://tinyurl.com/3hvbczfw</a>
- 4) Paper 1 and 2 Walkthrough videos: https://tinyurl.com/4cjbc7rb https://tinyurl.com/3xrrvvta
- 5) Craig n Dave videos about key concepts: <a href="https://tinyurl.com/yc47vuwm">https://tinyurl.com/yc47vuwm</a>

You should also condense notes using Mind maps and Cornell notes to consolidate learning. Teach-ICT.com would be the website we suggest you use.

Username: wr5 2xd Password: use details from your planner.