A LEVEL COMPUTER SCIENCE

Assessment

PAPER 1

Grade	TG.	Breadth	Depth	Presentation	Understanding
A/A*		ALL	**LINK / FORMULATE** Create, Generate, Hypothesis, Reflect, Theorise, Consider	Quad Core	Quad Core
B/C		MOST	**EXPLAIN / ANALYSE** Apply, Argue, Compare, Contrast, Criticise, Relate, Justify	Dual Core	Dual Core
D/E		SOME	**DESCRIBE / IDENTIFY** Name, Follow Simple Procedure, Combine, List, Outline	Single Core	Single Core
U		FEW	Very little depth of understanding shown		

YOUR BEST FIT CURRENT WORKING GRADE IS:

How To Improve:

My Response Is:

A LEVEL COMPUTER SCIENCE

1 – Programming basics (AS / A Level)

PAPER 1

SUMMARY: This structured learning record covers the following topics:

- Data types
- Arithmetic operations
- Boolean operations
- String-handling operations
- Programming concepts
- Relational operations
- Constants and variables
- Random number generation

Specification Points / Learning Objectives:

PGOnline text book page ref: 2-16

A Level	AS Level	Specification point description
3.1.1.1	4.1.1.1	Understand the concept of a data type.
3.1.1.1	4.1.1.1	Understand and use the following appropriately: Integer, real/float, Boolean, character, string, date/time, pointer/reference, records (or equivalent), arrays (or equivalent)
3.1.1.1	4.1.1.1	Define and use user-defined data types based on language-defined (built-in) data types.
3.1.1.2	4.1.1.2	Use, understand and know how the following statement types can be combined in programs: Variable declaration, constant declaration, assignment, iteration, selection, subroutine (procedure/function)
3.1.1.2	4.1.1.2	Use definite and indefinite iteration, including indefinite iteration with the condition(s) at the start or the end of the iterative structure. A theoretical understanding of condition(s) at either end of an iterative structure is required, regardless of whether they are supported by the language being used.
3.1.1.2	4.1.1.2	Use nested selection and nested iteration structures.
3.1.1.2	4.1.1.2	Use meaningful identifier names and know why it is important to use them.
3.1.1.3	4.1.1.3	Be familiar with and be able to use: Addition, subtraction, multiplication, real/float, integer division, including remainders, exponentiation, rounding, truncation
3.1.1.4	4.1.1.4	Be familiar with and be able to use: equal to, not equal to, less than, greater than, less than or equal to, greater than or equal to
3.1.1.5	4.1.1.5	Be familiar with and be able to use: NOT, AND, OR, XOR
3.1.1.6	4.1.1.6	Be able to explain the differences between a variable and a constant.
3.1.1.6	4.1.1.6	Be able to explain the advantages of using named constants.
3.1.1.7	4.1.1.7	Be familiar with and be able to use: Length, position, substring, concatenation, character ==> character code, character code ==> character, string conversion operations
3.1.1.8	4.1.1.8	Be familiar with, and be able to use, random number generation.

Expectations / Learning Outcomes:

- Terms 1-36 from your **A Level Key Terminology** PowerPoint should be included and underlined.
- You must include a comparison of variables vs. constants.
- You must include an example of a selection of Boolean, relational and assignment operators.
- You must include examples of a range of common string-handling operations and explain why they are useful.