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

2 – Programming next steps (AS / A Level)

PAPER 1

SUMMARY: This structured learning record covers the following topics:

- Exception handling
- Subroutines procedures/functions
- Parameters and subroutines
- Returning a value/values from a subroutine
- Local variables in subroutines
- Global variables in a programming language
- Role of stack frames in subroutine calls
- Recursive techniques

Specification Points / Learning Objectives:

PGOnline text book page ref: 21-32

AS Level	A Level	Specification point description
3.1.1.9	4.1.1.9	Be familiar with the concept of exception handling.
3.1.1.9	4.1.1.9	Know how to use exception handling in a programming language with which students are familiar.
3.1.1.10	4.1.1.10	Be familiar with subroutines and their uses.
3.1.1.10	4.1.1.10	Know that a subroutine is a named 'out of line' block of code that may be executed (called) by simply writing its name in a program statement.
3.1.1.10	4.1.1.10	Be able to explain the advantages of using subroutines in programs.
3.1.1.11	4.1.1.11	Be able to describe the use of parameters to pass data within programs.
3.1.1.11	4.1.1.11	Be able to use subroutines with interfaces.
3.1.1.12	4.1.1.12	Be able to use subroutines that return values to the calling routine.
3.1.1.13	4.1.1.13	Known that subroutines may declare their own variables, called local variables, and that local variables: Exist only while the subroutine is executing, are accessible only within the subroutine
3.1.1.13	4.1.1.13	Be able to use local variables and explain why it is good practice to do so.
3.1.1.14	4.1.1.14	Be able to contrast local variables with global variables.
	4.1.1.15	Be able to explain how a stack frame is used with subroutine calls to store: Return address, parameters, local variables
	4.1.1.16	Be familiar with the use of recursive techniques in programming languages (general and base cases and the mechanism for implementation).
	4.1.1.16	Be able to solve simple problems using recursion.

Expectations / Learning Outcomes:

- Terms 37-45 from your **A Level Key Terminology** PowerPoint should be included and underlined.
- You must include some annotated code that shows your understanding of global vs. local variables.
- You must include some annotated code that shows your understanding of functions vs. procedures.
- You must include some annotated code that shows your understanding of passing by value and by reference.
- You must include a diagram which shows your understanding of how a call stack is used with subroutine calls.
- You must include a clear example of how recursion compares to iteration either as a diagram or in pseudocode.