

9597 H2 Computing Syllabus

Paper 1 Format

- Duration: 3h15min
 - Time included for printing
- Evidence file:
 - ALWAYS PASTE MAIN PROGRAMME

Paper 1 (Practical) Content:

- Fundamental algorithms:
 - Search:
 - ◆ Linear / sequential
 - ◆ Binary search (iterative / recursive)
 - ◆ Hash table search (direct access: seek() / tell())
 - Sort:
 - ◆ Bubble sort (normal / improved version)
 - ◆ Insertion sort
 - ◆ Quick sort
 - Modulo operations / weighted modulo; RNG
 - Binary search tree:
 - ◆ Building: iterative / recursive
 - ◆ Sort: iterative / recursive
 - ◆ Search: iterative / recursive
 - ◆ Traversal: recursive (pre-order / in-order / post-order)
- Abstraction:
 - Data representation:
 - ◆ ASCII code: ord() / chr()
 - ◆ Binary, octal, hexadecimal
 - Data structures: associated operations (insert / delete / search)
 - ◆ Array: append / pop
 - ◆ Dictionary: map values
 - ◆ Stack: push / pop
 - ◆ Queue: enqueue / dequeue
 - ◆ List: add / delete
- Modularity:
 - Types of programme errors;
 - Test cases: normal / abnormal / erroneous / boundary data
 - Data validation: range / length / format / data type

- Programme design:
 - ◆ Modular designs / top-down approach
- Meaningful variable names
- Programming:
 - I/O operations
 - Serial / sequential text files:
 - ◆ Open / close file
 - ◆ Reading / writing file
 - ◆ Finding locations: seek() / tell()
 - Classes / objects
 - Encapsulation: do not access class data from main function
 - Inheritance: calling superclass `__init__`
 - Polymorphism