Year 9 Study Guide for Half-Yearly

Basic computing concepts: (see notes on http://emmanuelattardcassar.me/Basic%20Computing%20Concepts.pdf), serial access, direct access, validation, verification, hard copy, soft copy

Number systems: decimal, binary and hex. Converting from one form to the other. Addition and subtraction of binary numbers.

Computer logic: Boolean algebra, AND, OR, NOT operations, logic gates, logic circuits (circuit diagram), truth tables. Evaluation of Boolean expressions, priority of Boolean operators. Proving identities by truth tables.

Software applications: features of a word processor, spreadsheet, DBMS, web browser, presentation software, desktop publishing, .

Computer architecture: input, output, CPU, primary storage, RAM, (address, location) ROM, cache, address, secondary storage, fetch-execute cycle, buses (data bus, address bus, control bus), width of a bus. ALU, CU, bootstrap loader. MHz, GHz. KB, MB, GB, TB (Kb, Mb etc.) Examples of secondary storage (hard disk, tape, SSD, CD, DVD). Memory read and memory write. Registers (PC, CIR, accumulator, MDR, ADR). Read operation and write operation.

Programming (Java): program, flowchart, pseudocode. Variables, data types (int, double, String, boolean). Class. Statement, expression, assignment statement. Input, output and processing instructions. Keyboard class. Condition, if..then..else, for loop.