

4 Processor Fundamentals – Part 2 — Answers

Answers

4.1 It translates assembly language into machine code.

4.2 OR (with a mask that has that bit set).

4.3 (a) LDM #10 loads the value 10 (immediate); (b) LDD 200 loads the value stored at address 200 (direct).

4.4 00001011 (11) → 00010110 (22); it multiplies by 2.

4.5 00011000 (24) → 00001100 (12); it does an integer divide by 2.

4.6 Each bit moves one place to a column worth twice as much (the place values are 1, 2, 4, 8, ...), so the whole number doubles.

4.7 Multiplying by 4 is multiplying by 2 twice, so use LSL #2 (left shift by two): 00000101 (5) → 00010100 (20).