

Exam Questions

4.1 Data Types

Primitive Data Types / Positive Binary Numbers / Negative Binary Numbers / Binary Addition & Subtraction / Hexadecimal Numbers / Floating Point Binary Numbers / Floating Point Addition & Subtraction / Bitwise Manipulation & Masks / Character Sets

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Total Marks**/10**

1 **Convert** the denary number 189 to hexadecimal.

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(1 mark)

2 **Convert** the unsigned binary number 1010101111 to hexadecimal.

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(1 mark)

3 The normalised floating point binary number 0100 1110 is stored using 4 bits for the mantissa and 4 bits for the exponent, both in two's complement.

Convert this number to denary.

You **must** show your working.

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(3 marks)

4 **Show** how the denary value -9.125 can be represented in normalised floating point format, using 8 bits for the mantissa and 4 bits for the exponent, both in two's complement.

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(5 marks)