Solution to Question 2

Given number: $11000001100100100000001000001100_2$

Sign	Exponent	Mantissa
1	10000011	00100100000001000001100

$b = 127$ (bias).
$s = 1$
$e = 131 - b = 4$
$m = 2^{-3} + 2^{-6} + 2^{-13} + 2^{-19} + 2^{-20} = 0.14074993133$

Result = $(-1)^s \cdot (1 + m) \cdot 2^e = (-1)^1 \cdot (1 + 0.14074993133) \cdot 2^4 = -18.2519989013$