3.1)

SED4 - 07A4

= 0101 1110 1101 0100 → 0000 0111 1010 0100

= 0101 1110 1101 0100
0000 0111 1010 0100
0101 0111 0011 0000

= 5 7 3 0 16

3.20)

0x 0C000000

= 0000 1100 0000 0000 0000 0000 0000 0000

=> Left most bit is 0 so it's a positive

=> $1 \times 2^{27} + 1 \times 2^{26}$ = 134217728 + 67108864
= 201326592

=> Two's complement : 201326592
Unsigned : 201326592

3.21)

0x 0C000000

= 0000 1100 0000 0000 0000 0000 0000 0000

Take first 6 bits
-> 000011 = 3
-> The jal instructions as the opcode is 3

∴ instruction is jal 0

3.22)

0x0C000000

= 0000 1100 0000 0000 0000 0000 0000 0000

= 0 0001 1000 0000 0000 0000 0000 0000 000

⇒ Sign bit is 0 → positive

Exponent = 0001 1000

= 24 - 127 = -103

Fraction = 000....00

= 1 + 0.000....00

⇒ $X = (-1)^0 \times (1 + 0.000..00) \times 2^{-103}$

$= 1 \times 1 \times 2^{-103}$

$= 9.860761315 \times 10^{-32}$