

## 1<sup>st</sup> Written Examination

**Exercise 1: (2 pts):** Use these different codings to code the following relative integers on 8 bits

Decimal	Binary	SVA	C1	C2
-25	00011001	10011001	11100110	11100111
+7	00000111	00000111	00000111	00000111
-7	00000111	10000111	11111000	11111001
+21	00010101	00010101	00010101	00010101

**Exercise 2: (4 pts):** Perform the following operations:

$$(1011.1)_2 - (101.01)_2 = (10000.11)_2 = (16.75)_{10}$$

$$(91B)_{16} + (11C)_{16} = (5067)_8$$

$$(5067)_8 = (A37)_{16} \Rightarrow A37 - 91B = 11C$$

$$(561)_8 - (277)_8 = (262)_8$$

$$(17)_x = (20)_5 \text{ Find } X \Rightarrow$$

$$(20)_5 = 2 \cdot 5^1 + 0 \cdot 5^0 = (10)_{10}$$

$$(17)_x = 10 \Rightarrow x + 7 = 10 \Rightarrow x = 3$$