

# Computer Architecture

## Quiz # 1a 30mins

Time:

Name: \_\_\_\_\_

Id: \_\_\_\_\_

Q1: Find the solution of following signed numbers. Tell your answer in Decimal and also tell if there is an overflow or not. 6 marks

- a) Addition of  $(10111010)_2$  and  $(10111000)_2$
- b) Subtraction of  $(1000110)$  from  $(01010000)$

Q2. What is the difference between JK flip flop and SR flip flop?

4 marks

**Q4: A circuit has 3 inputs and two outputs. The expressions for both outputs are given below. Simplify the expressions using Boolean algebra or K-Maps, draw the truth table of the reduced expression and also draw circuit for the expression.**

**15 marks**

$$D0 = x'y'z + x'yz' + xy'z' + xyz$$

$$D1 = x'yz + xy'z + xyz' + xyz$$