

# Computer Architecture

## Quiz # 1b 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  $(10111000)_2$  and  $(10111010)_2$
- b) Subtraction of  $(01010000)$  from  $(01000110)$

Q2. What is JK flip flop? Draw truth table and diagram of JK 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**

$$D0 = a'bc + ab'c + abc' + abc$$

$$D1 = a'b'c + a'bc' + ab'c' +$$