



**King Saud University**  
College of Computer and Information Sciences  
Department of Computer Science

**CSC 220: Computer Organization**

**Labwork-5**

**Question # 1**

- (a) Design Full-Adder circuit using logic gates.
- (b) Draw the 4-bit parallel adder, and find the sum and output carry for the addition of the following two 4-bit numbers if the input carry ( $C_{in}$ ) is 0:

$A_4A_3A_2A_1=1010$  and  $B_4B_3B_2B_1=1011$

**Question # 2**

- (a) Design 2-to-1-line multiplexer.
- (b) Design the 4-to-1-line multiplexer