## COLLEGE OF Engineering – department of computer science

Quiz 1

Name:

I-Say if the following statements are True or False. Justify if false.

1. The instruction set architecture (ISA) is part of the architecture of a computer.

1. A memory stores both data and instructions as 1s and 0s.
2. The ALU of the CPU holds data that the CPU needs to access quickly.
3. When we say computer system, we mean supercomputers, mainframes, personal computers, mobiles devices and embedded systems.
4. The second generation of computers replaced transistors by optimized and very tiny vacuum tubes.
5. Rock’s law states that the density of transistors in an IC will double every 18 months.
6. The assembly language resides between the high-level language and the digital logic in the abstraction levels of modern computing systems.
7. In cloud computing, we do not care about the physical location of the resources.
8. The Von-neumann model is also known as the stored-program architecture.
9. The Von-neumann model is not the only model used nowadays.
10. In the Von-neumann model only instructions are stored in the memory.
11. The Von-neumann execution cycle is also called the decode-fetch-execute cycle.
12. All binary numbers representing an signed number starts with 1
13. All binary numbers representing odd unsigned numbers ends with 1

II-Binary and Decimal

1. Convert 256 to binary on 8 bits.
2. Represent -255 in binary using the signed-magnitude notation (on 10 bits).
3. Represent -255 in binary using the 2’s complement notation (on 10 bits).
4. Add the signed binary numbers (using two’s complement notation) 0111 + 0001 on 4 bits. Which flag the programmer will use to verify that the addition gives a correct result? Is the result in this case correct or not? Why?