## 4 Lecture - CS302

## Important Subjective

1. What is a number system?

Answer: A number system is a way to represent numerical values using symbols. Examples of number systems include decimal, binary, octal, and hexadecimal.
2. What is binary code?

Answer: Binary code is a system of representing data using only two symbols, typically 0 and 1. Binary code is commonly used in digital electronics and computing.
3. What is the difference between a digital signal and an analog signal?

Answer: A digital signal is a discrete signal that only has specific, discrete values, such as 0 or 1. An analog signal is a continuous signal that can have any value within a certain range.
4. What is the purpose of a code in digital electronics?

Answer: Codes are used to represent information using symbols, such as binary codes for representing data in a computer. Codes can also be used for error detection and correction.
5. What is an excess- $\mathbf{3}$ code?

Answer: An excess-3 code is a binary code that adds 3 to the decimal value of a number before encoding it in binary. This code is used for BCD arithmetic.
6. What is the difference between BCD and binary codes?

Answer: BCD codes are a type of binary code that represents each decimal digit using a 4-bit binary code. Binary codes, on the other hand, can represent any numerical value using a combination of 0 and 1.
7. What is a Gray code?

Answer: A Gray code is a binary code in which only one bit changes between consecutive numbers. Gray codes are used in digital circuits for reducing the likelihood of errors during transitions between values.
8. What is the purpose of a parity bit in a code?

Answer: A parity bit is used for error detection in codes. The parity bit is set to either 0 or 1 depending on whether the number of 1 bits in the code is even or odd.
9. What is the purpose of a radix point in a number system?

Answer: A radix point is used to separate the integer part and the fractional part of a number in a number system. The radix point is typically represented by a decimal point in the decimal system, a binary point in the binary system, and so on.
10. What is the significance of the base of a number system?

Answer: The base of a number system determines the number of symbols used to represent a value. For example, the binary system has a base of 2 and uses only two symbols, 0 and 1, to represent numerical values.

