

Day 12.04.2025

Class - VII

Topic - Number System

Month - April, 2025

Notes of Lesson

I Answer the following questions:-

1. What are the rules to convert a decimal number to a binary number?

Ans:

The rules are - Divide the given decimal number with the base of 2. Write down the remainder, and divide the quotient again by 2. Repeat previous step till the quotient becomes zero. Remainders that are obtained in each step are written in reverse order.

2. What is the importance of the binary number system?

Ans: A computer understands only the binary codes. Therefore, the data that is entered into a computer is converted into its binary equivalent.

3. What is hexadecimal number system? which digits are used in it?

Ans: The number system consists of 16 digits is called hexadecimal number system. This number system is also known as Hex. where Hex = 6 and Decimal = 10. The numbers are 0-9 and the letters A-F, where A-F represents digits 10 to 15 with the base 16.

II Competency-based question:-

1. Harini's teacher has given her the task to convert the binary number, i.e., 111110, to a decimal number.

$$\begin{aligned}\text{Ans: } (111110)_2 &= 1 \times 2^5 + 1 \times 2^4 + 1 \times 2^3 + 1 \times 2^2 + 1 \times 2^1 + 0 \times 2^0 \\ &= 32 + 16 + 8 + 4 + 2 + 0 \\ &= (62)_{10}\end{aligned}$$