SECTION - A

A. Fill in the blanks.

1. The base of Binary number system is 2.
2. The base of Decimal system is 10.
3. Octal Number system consists of 8 digits.
4. In Binary addition, 1+1 equals to 10.
5. Binary number system is understood by the computer system.

6. Hexa - decimal uses 16 symbols to represent numbers.

7. In Binary subtraction, 1-1 equals 0

HINTS • 0 • Binary • Decimal number • Hexadecimal • 2 • 8 • 10

B. State True or False.

1. You cannot perform arithmetical operations on binary numbers.
2. The decimal number system consists of 10 digits i.e., 0 to 9.
3. The method to perform division of two binary numbers is not the same as that of decimal numbers.
4. 1 multiplied by 0 equals to 0.
5. Charles Babbage introduced the concept of 0 (Zero).
6. The numbers used in Octal number system are 1 to 7.

SECTION - B

A. Multiple-choice questions.

1. _____ introduced the concept of 0 (Zero).

   a. Ada Lovelace ✓b. Aryabhat c. Bill Gates

2. A _____ converts the decimal format into its binary equivalent.

   ✓a. Digital Computer b. Cell Phone c. Abacus

3. A computer understands only _____ code.

   a. English b. French ✓c. Binary

4. In Binary multiplication, 1x1 equals to _____

   a. 0 ✓b. 1 c. 2

5. To convert Decimal number into Binary number, divide the number by _____

   ✓a. 2 b. 8 c. 10

B. Answer the following questions.

1. What is a Number system? Name the different types of number system used.

In early days when there was no means of counting, kids used to start with the help of fingers, stones, pebbles, sticks, etc. These methods were not adequate and had many limitations. So to overcome these limitations number systems were used such :- Decimal, Octal, Binary and Hexa - decimal Number systems.

What are the rules to convert a Decimal number into a Binary number?

Divide the given decimal no. with the base 2. ② Note down the remainder and divide the quotient by 2 ③ Repeat it till the quotient is zero.

Write the rules to multiply two Binary numbers.

a	b	a*b = c
0	0	0×0=0
0	1	0×1=0
1	0	1×0=0
1	1	1×1=1

Briefly explain the Octal number system.

The octal number system (Oct) consists of 8 digits : 0 to 7 with the base 8. The concept of octal number system came from the native Americans as they used to count using the space between their fingers rather than using their fingers. The procedure of octal to decimal conversion is similar to binary to decimal conversion, the only difference is the change of base. So, if we want to convert any octal number to decimal number we have to start multiplying the digits of the number from right hand side with the increasing powers of 8 starting from 0, and finally adding up all the terms.

What do you understand by Hexadecimal Number System?

The number system consists of 16 digits : 0-9 and A-F, A-F represent 10-15 with the base 16. Hexadecimal is also called hexa for 6 and decimal 10. The only difference is the change of base. To convert Hexadecimal into decimal, multiply by 6.