

Exercise

SECTION-A

- (A1) The base of binary number system is 2.
- (2) The base of decimal number 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) Hexadecimal uses 16 symbols to represent numbers.
- (7) In Binary subtraction, $1-1$ equals 0.
- (B1) You cannot perform arithmetical operations on binary numbers. False.
- (2) The decimal number system consists of 10 digits i.e. 0 to 9. True.

③ The method to perform division of two binary numbers is not the same as that of decimal numbers. False

④ 1 multiplied by 0 equals to 0. True

⑤ Charles Babbage introduced the concept of 0 (zero). False

⑥ The numbers used in Octal number system are 1 to 7. False

SECTION - B

① Arayabhat introduced the concept of 0 (zero)
Ans: - B Arayabhat

② A digital computer converts the decimal format into its binary equivalent.
Ans: - a Digital Computer

③ A computer understands only binary code.
Ans: - C Binary

④ In Binary multiplication, 1×1 equals to 1.
Ans: - B 1

⑤ To convert Decimal number into Binary number, divide the number by 2. Ans: - a 2

(B1) Ans: - A number system is a set of values used to represent different quantities.

The different types of number system used are:-

- Decimal number system.
- Binary number system.
- Octal number system.
- Hexadecimal number system.

Ans: -

(2) The rules to convert a Decimal number into a Binary number are:-

Rule 1) Divide the given decimal number with the base 2

Rule 2) Write down the remainder, divide the quotient again by 2.

Rule 3) Repeat rule no. 2 till the quotient is zero

(3) Ans: - The rules to multiply two Binary numbers is same as that of the decimal numbers.

Binary Multiplication:-

$$\rightarrow 0 * 0 = 0$$

$$\rightarrow 0 * 1 = 0$$

$$\rightarrow 1 * 0 = 0$$

$$\rightarrow 1 * 1 = 1$$

④ Ans. - Octal number system consists of 8 digits (0 to 7).
Its base is 8.

⑤ Ans. - HexaDecimal number system consists of 16 digits: 0-9 and the letters A-F, where A-F represents digits 10 to 15 with the base 16. This number system is also known as Hex, where Hex=6 and Decimal=10, so it is called Hexadecimal.