Brain International School
Vikas Puri, New Delhi

ASSIGNMENT 1

COMPUTER SCIENCE **CLASS XI** **APRIL, MAY 2026**

CH 1: Computer system organization

1. Define a computer system. What are its main components?
2. Differentiate between application software and system software.
3. What is the role of the CPU in a computer system?
4. Explain the functions of an operating system.
5. What is the difference between RAM and ROM?
6. Write two examples each of input and output devices.
7. What is the function of the control unit in the CPU?
8. Explain the concept of booting.
9. Define volatile and non-volatile memory with examples.
10. What is the difference between compiler and interpreter?

CH 2 : Data Representation

1. Convert the decimal number 156 to binary.
2. Convert the binary number 110011 to decimal.
3. Convert the decimal number 29 to hexadecimal.
4. Convert the hexadecimal number 2A to decimal.
5. What is a nibble? How many bits does it contain?
6. Define ASCII and Unicode. How are they different?
7. Convert the binary number 101011 to octal.
8. Convert the octal number 57 to binary.
9. Convert the hexadecimal number 3F to binary.
10. Convert the binary number 111010 to hexadecimal.

CH 3: Boolean Algebra

1. Define Boolean Algebra. Mention its significance in computer science
2. List the three basic logic gates. Draw their symbols and truth tables.
3. Differentiate between Universal Gates and Basic Gates. Give examples.
4. Draw the truth table for the following logic expression: Y = A + B’
5. Prove the following Boolean identity using a truth table:
   A + B·C = (A + B)(A + C)