**prep week**

computer basics

The following exercise contains the following subjects:

● computer structure and functions

**Instructions**

1. What is binary code, and why is it important in computing?

2. How many digits are there in the binary number system, and what are they?

3. Explain what a bit and a byte are in computing.

4. What is the role of transistors in computer circuits?

5. Describe the function of the Central Processing Unit (CPU) in a computer

6. What is the difference between RAM and ROM in computer memory?

7. Explain the concept of a logic gate and provide an example.

8. How do logic gates like AND, OR, and NOT contribute to computing?

9. Describe the binary representation of numbers in a computer.

10. What is ASCII, and how does it relate to character encoding in computing?

11. Explain how a CPU processes instructions using the fetch-decode-execute cycle.

12. What is a motherboard, and what role does it play in a computer's architecture?

13. Describe the concept of a CPU cache and its importance in computer performance.

14. How does a hard drive store data magnetically, and what are sectors and clusters?

15. What is Moore's Law, and how has it influenced the development of computer hardware?