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Marks	6.00/6.00
Grade	**100.00** out of 100.00

Question 1

Correct

Mark 1.00 out of 1.00

1. What is a data structure?

- a. A hardware component responsible for data storage.
- b. A method for storing and organizing data in a computer efficiently. ✔
- c. A programming language used to manipulate data.
- d. A type of database used to store massive amounts of data.

The correct answer is: A method for storing and organizing data in a computer efficiently.

Question 2

Correct

Mark 1.00 out of 1.00

2. Why is it important to learn data structures?

- a. To improve problem-solving and algorithm design skills. ✔
- b. To replace programming languages with data structures.
- c. To avoid learning about algorithms.
- d. To memorize all programming languages.

The correct answer is: To improve problem-solving and algorithm design skills.

Question 3

Correct

Mark 1.00 out of 1.00

3. Which of the following is NOT a characteristic of data structures?

- a. Access Techniques
- b. Ability to change programming language syntax ✔
- c. Representation of Data
- d. Storage Organization

The correct answer is: Ability to change programming language syntax

Question 4

Correct

Mark 1.00 out of 1.00

4. What is one advantage of using data structures?

- a. Increased difficulty in coding and maintaining programs.
- b. Inefficient data retrieval and organization.
- c. Better problem-solving capability by modeling real-world problems efficiently. ✔
- d. Increased memory consumption for storing data.

The correct answer is: Better problem-solving capability by modeling real-world problems efficiently.

Question 5

Correct

Mark 1.00 out of 1.00

5. Which data structure behavior follows the Last-In-First-Out (LIFO) principle?

- a. Graph
- b. Linked List
- c. Queue
- d. Stack ✔

The correct answer is: Stack

Question 6

Correct

Mark 1.00 out of 1.00

6. How do data structures contribute to memory optimization?

- a. By preventing memory allocation in programming.
- b. By storing data in an unorganized manner.
- c. By increasing the overall memory requirements of an application.
- d. By structuring data to reduce memory usage and improve efficiency. ✔

The correct answer is: By structuring data to reduce memory usage and improve efficiency.