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|  | **Linear Algebra**  **BSCS-5 A**  **Department of Computer Science**  **Bahria University, Lahore Campus** |

**Assignment: [1]**

Date: Week 4, 8 March 2024

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Roll No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Evaluation of CLO** | **Question Number** | **Marks** | **Obtained Marks** |
| **CLO I: Interpret** the fundamental concepts of linear algebra, vector equations and linear transformations. | 1 | **5** |  |
| 2 | **5** |
| 3 | **5** |
| 4 | **5** |
| 5 | **5** |
| **Total Marks** | | **25** |  |

**Question 1**: How are the concepts of linear algebra applicable in daily life scenarios such as budget planning, resource allocation, or optimization problems?

**Question 2:** Explain the significance of understanding consistent and inconsistent systems of linear equations in real-world applications.

**Question 3:** Discuss the importance of row reduction and echelon forms in solving systems of linear equations and their practical implications.

**Question 4:** Compare and contrast the elimination method and Gaussian elimination method for solving systems of linear equations. Provide example for each to illustrate their differences.

**Question 5:** How does the Gauss-Jordan method differ from other methods in solving linear systems? Provide a real-world example where Gauss-Jordan method can be effectively applied.