# University of Central Punjab

## Assignment 2

**Course Title: Linear Algebra** | **CLO Mapping: CLO 2**

**Course code: CSSS2753** | **Course instructor: Ms. Sadaf Ijaz**

**Assignment date: 24th Nov, 2024** | **Assignment deadline: 28th Nov, 2024**

**Total marks: 20** | **Section: D5**

It is **COMPULSORY** to submit this FIRST page along with your assignment, with your name.

**Assignment will NOT BE ACCEPTED without this page**, with your name/signatures.

**Name:**

**Registration Number:**

**Section:**

---

**Submission Instructions** ***(Please follow strictly)***

1. The assignment should be h**andwritten.** It should **NOT BE TYPED IN WORD or any text editor**.
   If it is not HANDWRITTEN, **ZERO** marks will be awarded.
2. **The Assignment should be written on plain A4 size pages and stapled properly**. (Do not submit in paper files)
3. All questions and pages or in order. (20 % marks will be deducted if pages are not in order)
4. Follow the deadline. Finish your work one day before, so you can submit in time.
5. **LATE SUBMISSION WILL NOT BE ACCEPTED**. 2 marks will be deducted for each day's delay.

I have read and followed the instructions above. In case, some instructions are not followed, I agree to mark deduction as per the above instructions.

Name/Signature _____

**THIS IS NOT A COPIED WORK**

**I declare that it is my work in MY HANDWRITING.**

**It is NOT COPIED or PLAGARISED from anyone or any resource.**

**I might have taken help from my fellows or the internet for concept understanding, but I sat alone and did all the work on my own, without looking at any other person's work.**

Name/Signature _____

## Question#1 /20

**i.** Use the key matrix $A = \begin{bmatrix} 6 & 24 & 1 \\ 13 & 16 & 10 \\ 20 & 17 & 15 \end{bmatrix}$ to obtain hill cipher for the plain text message "Sadaf Ijaz is my course instructor". And decode (if possible) the hill 3-cipher for verification.

**Note:** Use space as 27 digit and apply modulo 27.