



**UNITED INTERNATIONAL UNIVERSITY (UIU)**

**Dept. of Computer Science & Engineering**

**Trimester: Spring 2025 (Class Test-1)**

**Course No: CSE 3812 Title: AI Lab Section: A**

**Time: 40 min Marks: 25**

**Question 1 (Mark 10):**

Write a python function that takes a 2D numpy array as input and returns all 1D arrays that can be reshaped from the original array.

**Question 2 (Mark 10):**

Write a python function that takes an input n from keyboard

now if n is odd returns the sum  $1^2 + 3^2 + 5^2 + \dots + n^2$

if n is even returns the sum  $1^2 + 3^2 + 5^2 + \dots + (n+1)^2$

if n is anything else: print "ERROR"

**Question 3 (Mark 10):**

Given a list of integers (length  $\geq 3$ ), write a function to return a new list that contains only the elements except the first and last element, but in reverse order.

**Question 4 (Mark 10):**

Write a Python script using Matplotlib to plot a sine wave from 0 to  $\pi$ , cos wave from  $\pi$  to  $2\pi$ .