National University of Computer and Emerging Sciences, Lahore Campus

Course:	**Fundamentals of Computer Vision**		**Course Code:**	**CS-4059**
Program:	BS(Data Science)		**Semester:**	**Spring 2024**
Duration:	**-**		**Total Marks:**	**20**
Due Date:	**28-Mar-24**		**Weight**	
Section:	**B**		**Page(s):**	**1**
Exam:	**Quiz 1 Version 2**		**Roll No.**	

Instruction/Notes:

- Read the Questions carefully. Make sure you have understood the requirements and expectations of the Questions.
- Any form of cheating or plagiarism will result in an award of ZERO marks.
- Crying is allowed but do it silently and please be sure to use your own tissue.

Question #1 [10 marks]

Define depthwise separable convolution and explain its advantages over standard convolutions. Discuss a specific application or use case where depthwise separable convolution has significant benefits compared to traditional convolutional layers.

Question #2 [5 marks]

How many convolutional layers are there in AlexNet?

In AlexNet, images were down-sampled and cropped to what size??

Question #3 [5 marks]

What is Translation Invariance in convolutional neural networks (CNNs) ?