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| **National University of Computer and Emerging Sciences, Lahore Campus** | | | | |
| C:\Users\saif\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\final design.jpg | **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) ?