**Mandsaur University, Mandsaur**

**Department of Computer Science & Engineering**

### **Subject: Deep Learning**

**Assignment 3**

**Q1.** Explain the **basic structure of a Convolutional Neural Network (CNN)**. In your answer, describe the role of convolution, padding, strides, and pooling operations in feature extraction. Provide diagrams where necessary.

**Q2.** What is the purpose of the **ReLU activation function** in CNNs? Compare it with other activation functions, and explain why ReLU is typically preferred in deep learning applications.

OR

**Q3.** Discuss the role of **Fully Connected Layers** in CNN architecture. How do they differ from convolutional and pooling layers, and why are they important for tasks such as classification?