**Name:** Abhay Mathur **SAPID:** 60017210016  
**Batch:** A1

**Experiment No. 5B**

**Aim:** Feature Detection in Images

**Objective:** Develop a program to detect features in an Image (Edge)

**Theory:**

Difference of Gaussians (DoG) is calculated as the difference between two smoothed versions of an image obtained by applying two Gaussian kernels of different standard deviations (sigma) on that image

As an image enhancement algorithm, the difference of Gaussians can be utilized to increase the visibility of edges and other detail present in a digital image.

A wide variety of alternative edge sharpening filters operate by enhancing high frequency detail, but because random noise also has a high spatial frequency, many of these sharpening filters tend to enhance noise, an undesirable artifact.

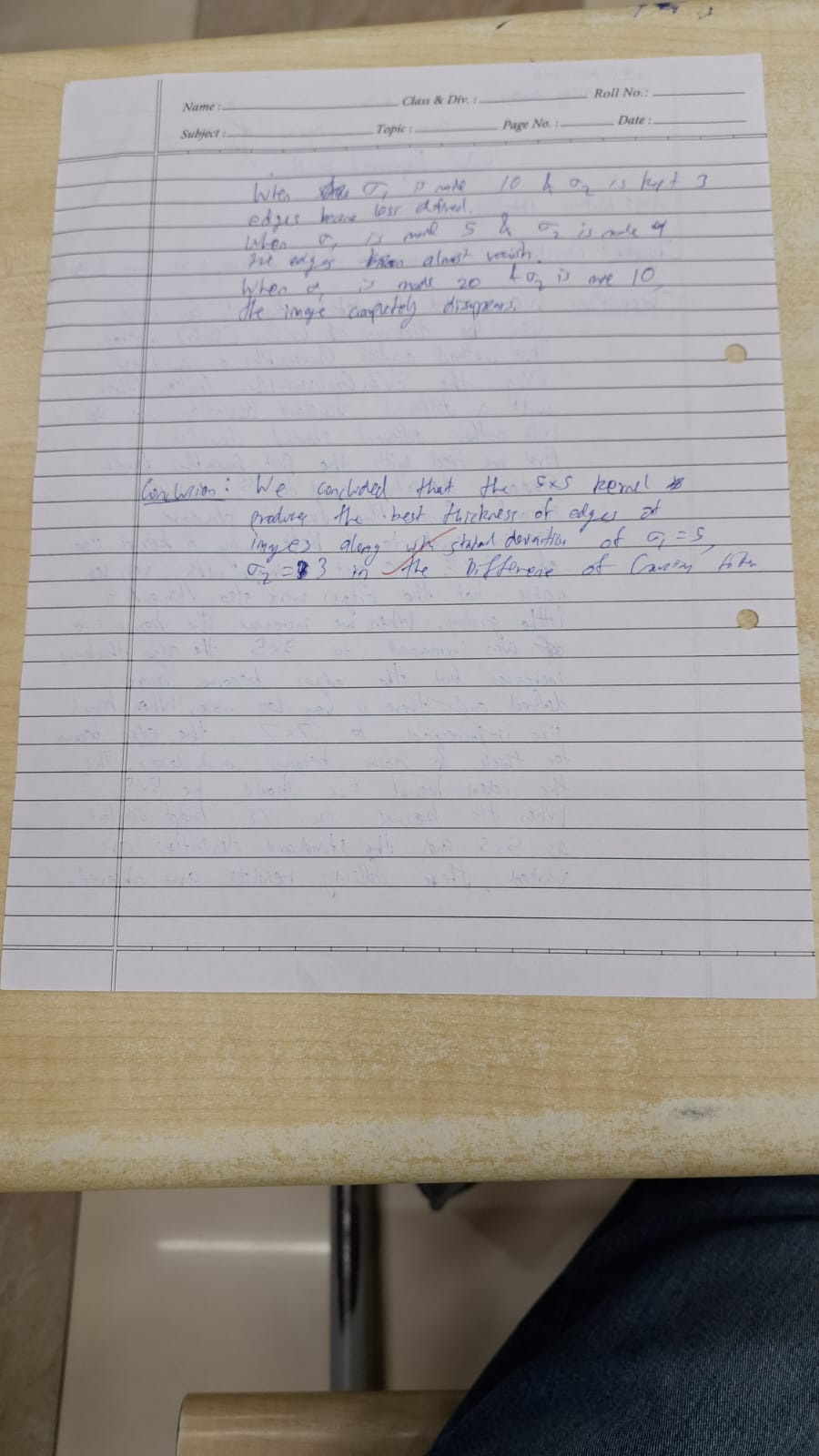
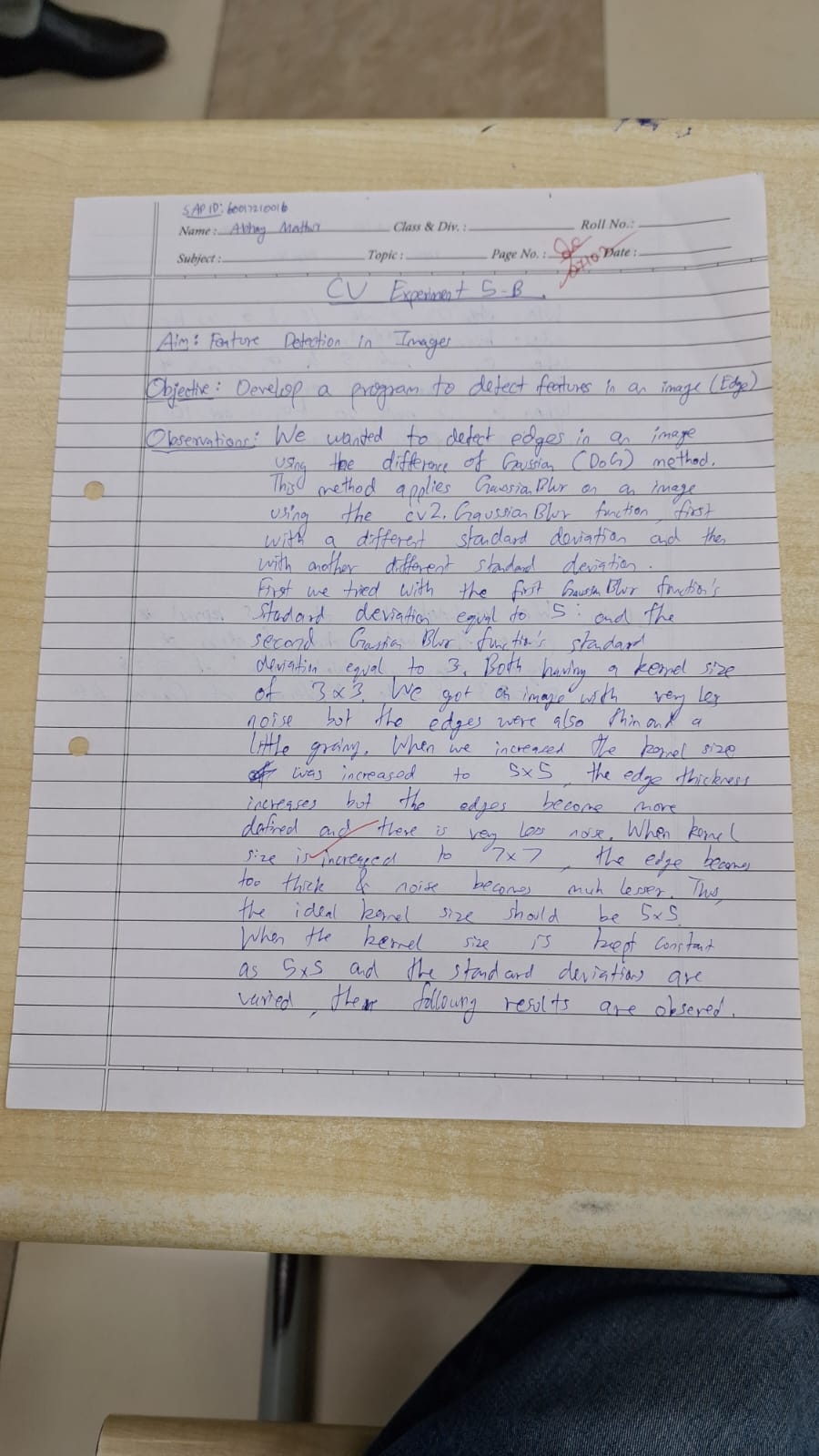
The difference of Gaussians algorithm removes high frequency detail that often includes random noise, rendering this approach one of the most suitable for processing images with a high degree of noise.

A major drawback to application of the difference of Gaussians algorithm is an inherent reduction in overall image contrast produced by the operation.

**Problem Definition**

* Edge Detection using Difference of Gaussian

**Observations**

****