Question Bank for Experiment 3

1. **Describe a case where improper preprocessing led to poor segmentation results. What steps would you take to rectify this?**

* Analyze the impact of preprocessing on segmentation outcomes. Give any example for improper preprocessing with example.

1. **What challenges do you face when segmenting images of organs or tumors in diverse populations?**

Discuss variability in anatomy, imaging techniques, and how these affect segmentation accuracy.

1. **What are the different types of segmentation methods used in biomedical imaging?**

Compare thresholding, region-based methods, and edge detection techniques.

1. **Can you explain how deep learning has transformed segmentation in medical images?**

Discuss architectures like U-Net and their advantages in biomedical applications.

1.  **How can segmentation be used to assist in tumor detection and treatment planning?**

Provide examples of how precise segmentation impacts diagnosis and therapy.