I. Complete the following answering any accompanying questions:

1. A soap in hard water:

\[
\text{Na}^+ \quad \underset{\text{O}}{\text{C}} \quad \text{Ca}^2+ \quad \underset{\text{O}}{\text{C}} \quad \text{Na}^+ \quad \underset{\text{O}}{\text{C}}
\]

2. Partial hydrogenation of oils to make margarine & Saponification to make soap.

3. A. What’s the big deal about trans-fatty acids? Tell me where they come from and why the concern?

B. What are the advantages of using partially hydrogenated fats in food products? Explain why.
4. Label the Isoprene units in the following:

![Isoprene units](image)

5. Draw an example of any simple phosphoglyceride and show how it works in a cell membrane.