Chapter 5 in Manual:

1. List three (3) products found locally that are usually blanched before any further processing is done to them. What are the blanching conditions?

Chapter 6 in Manual:

1. How much heat must be added to 3.5 kg of peach slices to heat them from 10°C to 96°C?

2. The heat capacity of green peas (74% moisture content) is 3.316 kJ/kg C° above their freezing point of -0.6°C. The heat capacity of mature carrots (88% moisture content) is 3.785 kJ/kg C° above their freezing point of -1.4°C. Calculate the amount of heat that must be added to heat 5.0 kg of green peas to heat them from 4°C to 90°C. Do the same calculation for 5.0 kg of carrots. Compare the results. Which process requires more heat? Why is this the case?

3. Heat capacity values are not always available for certain food materials. A technician in a food processing plant must determine the specific heat capacity of some snap beans that have been grown by a local supplier. She begins her work by placing 535.5 grams of finely chopped snap beans into a well insulated test vessel and adds a controlled amount of heat to the mixture while monitoring the temperature change. She finds that it takes 58.911 kiloJoules of heat energy to increase the temperature of the bean sample from an initial 19.2°C to 47.3°C. What is the heat capacity as determined in the researcher’s laboratory? (Express your answer in the appropriate units to three decimal places).

Hint: You will have to re-arrange the equation \( Q = m \ C_p \Delta T \) to solve for the \( C_p \) value.