Solutions Manual:

# Chapter 11: Logistics Management

1a. Pipeline for petroleum distillates; pipelines are used for fluids as an inexpensive and safe medium.

1b. Air for time-sensitive medical supplies; the distance, need for speed, and low weight-to-value ratio.

1c. Water for automobile parts from Shanghai to Long Beach; both are port cities, time is not crucial.

1d. Truck for refurbished office supplies; short distance between the cities with good flexibility.

Cognitive Domain: Knowledge

Difficulty Level: Easy

2. Organic tea is likely costlier to produce; the packaging should provide information that it is organic and healthier than other types. The package should have a seal to maintain freshness before and after opening. If freshness before opening is the only requirement, then vacuum sealing is an option.

Cognitive Domain: Comprehension

Difficulty Level: Medium

3. Cross-docking is a system in which truck bays on opposite sides of a warehouse are served by supplier trucks and customer trucks. Bulk from a shipment from one supplier truck is parsed to many customer trucks that serve different customer locations. Cross-docking would be used to bring produce from the StayFresh produce supplier in one side of the building and transfer one crate of bananas to each of the seven trucks on the opposite side for that day’s delivery. Paper products, canned goods, and the like would each come from one truck on the supplier side and some portion sent to each truck bound for a grocery store. Cross-docking provides a way for deliveries to be managed quickly and inexpensively.

Cognitive Domain: Knowledge

Difficulty Level: Easy

4. A traditional (nonelectronic) textbook would have primary packaging to stimulate interest from the audience, secondary packaging to prevent damage from moisture, and tertiary packaging to protect the cover corners. The primary package doubles as the label in a typical book; the label should identify the subject, authors, and provide an iconic picture of supply chain elements. Books have a relatively high weight-to-value ratio, so inexpensive modes of transportation are ideal. There is now a strong secondary market for used textbooks compared with the options available to students 20 years ago, so inventory must be managed more carefully as textbooks become more perishable.

Cognitive Domain: Comprehension

Difficulty Level: Medium

5. Sustainable packaging tends to be less bulky and composed of either organic or easily recycled materials, perhaps even materials that have already been recycled.

Cognitive Domain: Knowledge

Difficulty Level: Easy

6. Sustainable logistics seeks a balance between society, the environment, and economic costs. Bottled water can easily be transported by pipeline, reducing both cost and carbon footprint. At each market, the water can be bottled using the thinnest packaging possible or refillable containers to reduce the overall volume of packaging needed.

Cognitive Domain: Knowledge

Difficulty Level: Easy