TSC | WILLIAM D. LAW, JR. LEARNING COMMONS

Chapter 9 Study Guide: Long-Lived Tangible and Intangible Assets

---

1. Introduction to Long-Lived Assets

- **Long-lived assets** are resources that a company uses for more than one year in the production of goods or services. These assets are classified as either **tangible** or **intangible**.
  - **Tangible Assets**: Physical assets such as buildings, machinery, land, and equipment.
  - **Intangible Assets**: Non-physical assets that represent legal rights or privileges, such as patents, trademarks, copyrights, and goodwill.

---

2. Tangible Assets: Property, Plant, and Equipment (PPE)

- **Property, Plant, and Equipment (PPE)** refers to long-lived, physical assets used in the operations of the business. These assets are typically depreciated over time, except for **land**, which is not depreciated.
- **Types of Tangible Assets**:
  - **Land**: Land used in operations or for investment purposes. It is not depreciated.
  - **Buildings**: Structures used for business operations. Depreciated over their useful life.
  - **Equipment**: Machinery, tools, and vehicles used in production or other business activities. Depreciated over their useful life.
  - **Furniture and Fixtures**: Office furniture, fixtures, and similar assets. Depreciated over their useful life.

---

3. Acquisition of Tangible Assets

- **Cost of Acquisition** includes:
  - **Purchase Price**: The amount paid to acquire the asset.
  - **Taxes and Fees**: Sales tax, property tax, legal fees, etc.
  - **Shipping, Installation, and Setup Costs**: Expenses required to prepare the asset for its intended use.
-

- **Journal Entry for Acquisition of Tangible Assets**:
  - **Debit**: Asset account (e.g., Equipment, Building, etc.)
  - **Credit**: Cash or Accounts Payable (for the purchase amount)

---

4. Depreciation of Tangible Assets

- **Depreciation** is the process of allocating the cost of a tangible asset over its useful life. This is done to match the asset's expense with the revenues it helps generate.
  - **Depreciable Asset**: An asset with a limited useful life, such as equipment or buildings.
  - **Depreciation Expense**: An expense recognized on the income statement, representing the allocation of the asset's cost over time.
- **Methods of Depreciation**:
  1. **Straight-Line Method**: The same amount of depreciation expense is recorded each period.

Depreciation Expense = Cost of Asset – Salvage Value / Useful Life in Years

  2. **Declining-Balance Method**: An accelerated method where more depreciation is recorded in earlier years.

Depreciation Expense = Book Value at Beginning of Period x Depreciation Rate

  3. **Units of Production Method**: Depreciation is based on actual usage or output.

Depreciation Expense = (Cost of Asset – Salvage Value / Total Estimated Units) x Units Produced in Period

---

5. Impairment of Tangible Assets

- **Impairment** occurs when the carrying value of a tangible asset exceeds its recoverable amount (the higher of its fair value or its value in use).
- If an asset is impaired, its value must be written down to its recoverable amount.
- **Journal Entry for Impairment**:
  - **Debit**: Impairment Loss (Income Statement)
  - **Credit**: Asset account (Balance Sheet)

---

6. Intangible Assets

- **Intangible Assets** are non-physical assets that provide long-term value to the company. These assets often represent legal rights or privileges.
- **Types of Intangible Assets**:
  - **Patents**: Exclusive rights granted for inventions or processes. Amortized over the patent's useful life.
  - **Copyrights**: Protection granted to the creators of original works. Amortized over the life of the copyright.
  - **Trademarks**: Protection for logos, names, and symbols used in commerce. Can have indefinite useful lives and are not amortized, but their value may be impaired.
  - **Goodwill**: The premium paid over fair value in business acquisitions. Not amortized, but tested for impairment annually.
- **Amortization of Intangible Assets**:
  - Similar to depreciation, **amortization** is the process of expensing the cost of an intangible asset over its useful life, usually on a straight-line basis.
- **Journal Entry for Amortization**:
  - **Debit**: Amortization Expense
  - **Credit**: Intangible Asset

---

7. Key Terms to Know

- **Property, Plant, and Equipment (PPE)**
- **Depreciation Expense**
- **Salvage Value**
- **Useful Life**
- **Impairment**
- **Amortization**
- **Intangible Assets**
- **Patents**
- **Trademarks**
- **Goodwill**
- **Impairment Loss**

Practice Questions for Chapter 9: Long-Lived Tangible and Intangible Assets

---

1. Tangible Assets: Acquisition Cost

Problem 1.1: Acquisition Cost

XYZ Corp. purchases a machine for $50,000. The company also pays $2,000 in sales tax, $1,000 for shipping, and $5,000 for installation. What is the total cost of the machine to be capitalized on the balance sheet?

---

2. Depreciation Using Straight-Line Method

Problem 2.1: Straight-Line Depreciation

ABC Corp. purchases a delivery truck for $40,000 with an estimated salvage value of $5,000 and an expected useful life of 5 years. What is the annual depreciation expense using the **straight-line method**?

---

3. Depreciation Using Declining-Balance Method

Problem 3.1: Declining-Balance Depreciation

A company buys a piece of equipment for $100,000, with an estimated salvage value of $10,000 and a useful life of 4 years. Using the **double declining-balance method**, what is the depreciation expense for the first year?

---

4. Depreciation Using Units of Production Method

Problem 4.1: Units of Production Depreciation

XYZ Corp. purchases a machine for $50,000, with an estimated salvage value of $5,000. The machine is expected to produce 100,000 units over its useful life. In its first year, the machine produces 20,000 units. What is the depreciation expense for the first year using the **units of production method**?

---

5. Impairment of Tangible Assets

Problem 5.1: Impairment of Asset

XYZ Corp. owns a building with a carrying value of $200,000. After assessing the asset, the company determines the recoverable amount is only $150,000. What is the impairment loss, and what is the journal entry to recognize the impairment?

---

6. Amortization of Intangible Assets

Problem 6.1: Amortization of Intangible Assets

ABC Corp. purchases a patent for $25,000 with a useful life of 10 years. What is the annual amortization expense for the patent using the **straight-line method**?

---

7. Goodwill and Impairment

Problem 7.1: Impairment of Goodwill

XYZ Corp. acquires a competitor for $1,000,000. The fair value of the acquired company's net assets is $800,000, resulting in goodwill of $200,000. After one year, XYZ Corp. determines that the fair value of the goodwill is now only $150,000. What is the impairment loss, and what is the journal entry to recognize the impairment?

Answers to Practice Questions

Problem 1.1: Acquisition Cost

- Total cost = $50,000 + $2,000 + $1,000 + $5,000 = **$58,000**

Problem 2.1: Straight-Line Depreciation

- Depreciation Expense = ($40,000 - $5,000) ÷ 5 = $35,000 ÷ 5 = **$7,000 per year**

Problem 3.1: Declining-Balance Depreciation

- Depreciation Expense = (100,000 × 50%) = **$50,000** for the first year

Problem 4.1: Units of Production Depreciation

- Depreciation per unit = ($50,000 - $5,000) ÷ 100,000 units = $0.45 per unit
- Depreciation for 20,000 units = 20,000 × $0.45 = **$9,000**

Problem 5.1: Impairment of Asset

- Impairment Loss = $200,000 - $150,000 = **$50,000**
- Journal Entry:
    - **Debit**: Impairment Loss $50,000
    - **Credit**: Building $50,000

Problem 6.1: Amortization of Intangible Assets

- Annual Amortization Expense = $25,000 ÷ 10 years = **$2,500 per year**

Problem 7.1: Impairment of Goodwill

- Impairment Loss = $200,000 - $150,000 = **$50,000**
- Journal Entry:
    - **Debit**: Impairment Loss $50,000
    - **Credit**: Goodwill $50,000