PRACTICE MULTIPLE-CHOICE QUESTIONS

**9-1.** (LO 1)

Erin Danielle Company purchased equipment and incurred the following costs.

|  |  |
| --- | --- |
| Cash price | €24,000 |
| Sales taxes | 1,200 |
| Insurance during transit | 200 |
| Installation and testing | 400 |
| Total costs | €25,800 |

What amount should be recorded as the cost of the equipment?

(a) €24,000.

(b) €25,200.

(c) €25,400.

(d) €25,800.

**Answer**

(d) €25,800.

**9-2.** (LO 2)

Depreciation is a process of:

(a) valuation.

(b) cost allocation.

(c) cash accumulation.

(d) appraisal.

**Answer**

(b) cost allocation.

**9-3.** (LO 2)

Micah Bartlett Ltd. purchased equipment on January 1, 2016, at a total invoice cost of £400,000. The equipment has an estimated residual value of £10,000 and an estimated useful life of 5 years. The amount of accumulated depreciation at December 31, 2017, if the straight-line method of depreciation is used, is:

(a) £80,000.

(b) £160,000.

(c) £78,000.

(d) £156,000.

**Answer**

(d) £156,000.

**9-4.** (LO 2)

Ann Torbert purchased a truck for €11,000 on January 1, 2016. The truck will have an estimated residual value of €1,000 at the end of 5 years. Using the units-of-activity method, the balance in accumulated depreciation at December 31, 2017, can be computed by the following formula:

(a) (€11,000 ÷ Total estimated activity) × Units of activity for 2017.

(b) (€10,000 ÷ Total estimated activity) × Units of activity for 2017.

(c) (€11,000 ÷ Total estimated activity) × Units of activity for 2016 and 2017.

(d) (€10,000 ÷ Total estimated activity) × Units of activity for 2016 and 2017.

**Answer**

(d) (€10,000 ÷ Total estimated activity) × Units of activity for 2016 and 2017.

**9-5.** (LO 2)

Chang Company purchased a piece of equipment on January 1, 2017. The equipment cost HK$600,000 and has an estimated life of 8 years and a residual value of HK$80,000. What was the depreciation expense for the asset for 2018 under the double-declining-balance method?

(a) HK$65,000.

(b) HK$112,500.

(c) HK$150,000.

(d) HK$65,620.

**Answer**

(b) HK$112,500.

**9-6.** (LO 2)

When there is a change in estimated depreciation:

(a) previous depreciation should be corrected.

(b) current and future years' depreciation should be revised.

(c) only future years' depreciation should be revised.

(d) None of the above.

**Answer**

(b) current and future years' depreciation should be revised.

**9-7.** (LO 2)

Able Towing plc purchased a tow truck for £60,000 on January 1, 2015. It was originally depreciated on a straight-line basis over 10 years with an assumed residual value of £12,000. On December 31, 2017, before adjusting entries had been made, the company decided to change the remaining estimated life to 4 years (including 2017) and the residual value to £2,000. What was the depreciation expense for 2017?

(a) £6,000.

(b) £4,800.

(c) £15,000.

(d) £12,100.

**Answer**

(d) £12,100.

**9-8.**  (LO 2)

Wales plc applies revaluation accounting to equipment that is recorded on its books at €80,000, with €100,000 of accumulated depreciated after depreciation for the year recorded. It has determined that the asset is now worth €775,000. The entry to record the revaluation would include a:

(a) credit to Equipment of €25,000.

(b) debit to Equipment of €75,000.

(c) credit to Accumulated Depreciation of €100,000.

(d) debit to Revaluation Surplus of €75,000.

**Answer**

(a) credit to Equipment of €25,000.

**9-9.** (LO 3)

Additions to plant assets are:

(a) revenue expenditures.

(b) debited to the Maintenance and Repairs Expense account.

(c) debited to the Purchases account.

(d) capital expenditures.

**Answer**

(d) capital expenditures.

**9-10.** (LO 4)

Bennie Razor Company has decided to sell one of its old manufacturing machines on June 30, 2017. The machine was purchased for €80,000 on January 1, 2013, and was depreciated on a straight-line basis for 10 years assuming no residual value. If the machine was sold for €26,000, what was the amount of the gain or loss recorded at the time of the sale?

(a) €18,000.

(b) €54,000.

(c) €22,000.

(d) €46,000.

**Answer**

(a) €18,000.

**9-11.** (LO 5)

Maggie Sharrer Ltd. expects to extract 20 million tons of coal from a mine that cost NT€12 million. If no residual value is expected and 2 million tons are mined and sold in the first year, the entry to record depletion will include a:

(a) debit to Accumulated Depletion of NT$2,000,000.

(b) credit to Depletion Expense of NT$1,200,000.

(c) debit to Depletion Expense of NT$1,200,000.

(d) credit to Accumulated Depletion of NT$2,000,000.

**Answer**

(c) debit to Depletion Expense of NT$1,200,000.

**9-12.** (LO 6)

Which of the following statements is **false**?

(a) If an intangible asset has a finite life, it should be amortized.

(b) The amortization period of an intangible asset can exceed 20 years.

(c) Goodwill is recorded only when a business is purchased.

(d) Development costs are always expensed when incurred.

**Answer**

(d) Development costs are always expensed when incurred.

**9-13.** (LO 7)

Indicate which of the following statements is **true**.

(a) Since intangible assets lack physical substance, they need be disclosed only in the notes to the financial statements.

(b) Goodwill should be reported as a contra account in the equity section.

(c) Totals of major classes of assets can be shown in the statement of financial position, with asset details disclosed in the notes to the financial statements.

(d) Intangible assets are typically combined with plant assets and extractable natural resources and shown in the property, plant, and equipment section.

**Answer**

(c) Totals of major classes of assets can be shown in the statement of financial position, with asset details disclosed in the notes to the financial statements.

**9-14.** (LO 7)

Tianzi Coffee Ltd. reported net sales of HK$1,800,000, net income of HK$540,000, beginning total assets of HK$2,000,000, and ending total assets of HK$3,000,000. What was the company's asset turnover ratio?

(a) 0.90.

(b) 0.20.

(c) 0.72.

(d) 1.39.

**Answer**

(c) 0.72.

**\*9-15.** (LO 8)

Schopenhauer NV exchanged an old machine, with a book value of €39,000 and a fair value of €35,000, and paid €10,000 cash for a similar new machine. The transaction has commercial substance.

At what amount should the machine acquired in the exchange be recorded on Schopenhauer's books?

(a) €45,000.

(b) €46,000.

(c) €49,000.

(d) €50,000.

**Answer**

(a) €45,000.

**\*9-16.** (LO 8)

In exchanges of assets in which the exchange has commercial substance:

(a) neither gains nor losses are recognized immediately.

(b) gains, but not losses, are recognized immediately.

(c) losses, but not gains, are recognized immediately.

(d) both gains and losses are recognized immediately.

**Answer**

(d) both gains and losses are recognized immediately.

QUESTIONS

**9-1.** Rick Baden is uncertain about the applicability of the historical cost principle to plant assets. Explain the principle to Rick.

**9-2.** What are some examples of land improvements?

**9-3.** Lexa Company acquires the land and building owned by Malta Company. What types of costs may be incurred to make the asset ready for its intended use if Lexa Company wants to use (a) only the land, and (b) both the land and the building?

**9-4.** In a recent newspaper release, the president of Wanzo OAO asserted that something has to be done about depreciation. The president said, “Depreciation does not come close to accumulating the cash needed to replace the asset at the end of its useful life.” What is your response to the president?

**9-5.** Jeremy is studying for the next accounting examination. He asks your help on two questions: (a) What is residual value? (b) Is residual value used in determining periodic depreciation under each depreciation method? Answer Jeremy's questions.

**9-6.** Contrast the straight-line method and the units-of-activity method as to (a) useful life, and (b) the pattern of periodic depreciation over useful life.

**9-7.** Contrast the effects of the three depreciation methods on annual depreciation expense.

**9-8.** What is component depreciation, and when must it be used?

**9-9.** In the fourth year of an asset's 5-year useful life, the company decides that the asset will have a 6-year service life. How should the revision of depreciation be recorded? Why?

**9-10.** What is revaluation of plant assets? When should revaluation be applied?

**9-11.** Distinguish between revenue expenditures and capital expenditures during an asset's useful life.

**9-12.** How is a gain or loss on the sale of a plant asset computed?

**9-13.** Luis SA owns a machine that is fully depreciated but is still being used. How should Luis account for this asset and report it in the financial statements?

**9-14.** What are extractable natural resources, and what are their distinguishing characteristics?

**9-15.** Explain the concept of depletion is and how it is computed.

**9-16.** What are the similarities and differences between the terms depreciation, depletion, and amortization?

**9-17.** Spectrum Company hires an accounting intern who says that intangible assets should always be amortized over their legal lives. Is the intern correct? Explain.

**9-18.** Goodwill has been defined as the value of all favorable attributes that relate to a business. What types of attributes could result in goodwill?

**9-19.** Mark Gannon, a business major, is working on a case problem for one of his classes. In the case problem, the company needs to raise cash to market a new product it developed. Sara Bates, an engineering major, takes one look at the company's statement of financial position and says, “This company has an awful lot of goodwill. Why don't you recommend that they sell some of it to raise cash?” How should Mark respond to Sara?

**9-20.** Under what conditions is goodwill recorded?

**9-21.** Often, research and development costs provide companies with benefits that last a number of years. (For example, these costs can lead to the development of a patent that will increase the company's income for many years.) However, IFRS requires that many such costs be recorded as an expense when incurred. Why?

**9-22.** Some product development expenditures are recorded as development expenses, and others as development costs. Explain the difference between these accounts, and how a company decides which classification is appropriate.

**9-23.** McDonald's Corporation (USA) reports total average assets of $28.9 billion and net sales of $20.5 billion. What is the company's asset turnover?

**9-24.** Alpha SE and Zito SE operate in the same industry. Alpha uses the straight-line method to account for depreciation; Zito uses an accelerated method. Explain what complications might arise in trying to compare the results of these two companies.

**9-25.** Wanzo ASA uses straight-line depreciation for financial reporting purposes but an accelerated method for tax purposes. Is it acceptable to use different methods for the two purposes? What is Wanzo's motivation for doing this?

**9-26.** You are comparing two companies in the same industry. You have determined that Lam Ltd. depreciates its plant assets over a 40-year life, whereas Shuey Ltd. depreciates its plant assets over a 20-year life. Discuss the implications this has for comparing the results of the two companies.

**9-27.** Zelm Company is doing significant work to revitalize its warehouses. It is not sure whether it should capitalize these costs or expense them. What are the implications for current-year net income and future net income of expensing versus capitalizing these costs?

**\*9-28.** When assets are exchanged in a transaction involving commercial substance, how is the gain or loss on disposal of plant assets computed?

**\*9-29.** Morris Refrigeration Company trades in an old machine on a new model when the fair value of the old machine is greater than its book value. The transaction has commercial substance. Should Morris recognize a gain on disposal of plant assets? If the fair value of the old machine is less than its book value, should Morris recognize a loss on disposal of plant assets?

BRIEF EXERCISES

**BE9-1.** *Determine the cost of land*.

(LO 1)

The following expenditures were incurred by Rosenberg AG in purchasing land: cash price €64,000, accrued taxes €3,000, attorneys' fees €2,500, real estate broker's commission €2,000, and clearing and grading €3,800. What is the cost of the land?

**BE9-2.** *Determine the cost of a truck*.

(LO 1)

Jawson Company incurs the following expenditures in purchasing a truck: cash price £30,000, accident insurance £2,000, sales taxes £1,800, motor vehicle license £160, and painting and lettering £400. What is the cost of the truck?

**BE9-3.** *Compute straight-line depreciation*.

(LO 2)

Weller Company acquires a delivery truck at a cost of €42,000. The truck is expected to have a residual value of €9,000 at the end of its 5-year useful life. Compute annual depreciation expense for the first and second years using the straight-line method.

**BE9-4.** *Compute depreciation and evaluate treatment*.

(LO 2)

Kowloon Ltd. purchased land and a building on January 1, 2017. Management's best estimate of the value of the land was HK$1,000,000 and of the building HK$2,000,000. However, management told the accounting department to record the land at HK$2,250,000 and the building at HK$750,000. The building is being depreciated on a straight-line basis over 20 years with no residual value. Why do you suppose management requested this accounting treatment? Is it ethical?

**BE9-5.** *Compute declining-balance depreciation*.

(LO 2)

Depreciation information for Weller Company is given in BE9-3. Assuming the declining-balance depreciation rate is double the straight-line rate, compute annual depreciation for the first and second years under the declining-balance method.

**BE9-6.** *Compute depreciation using the units-of-activity method*.

(LO 2)

Freemont Taxi Service uses the units-of-activity method in computing depreciation on its taxicabs. Each cab is expected to be driven 150,000 miles. Taxi no. 10 cost €33,500 and is expected to have a residual value of €500. Taxi no. 10 is driven 36,000 miles in year 1 and 22,000 miles in year 2. Compute the depreciation for each year.

**BE9-7.** *Compute depreciation using component method*.

(LO 2)

Mandall Ltd. constructed a warehouse for £280,000. Mandall estimates that the warehouse has a useful life of 20 years and no residual value. Construction records indicate that £40,000 of the cost of the warehouse relates to its heating, ventilation, and air conditioning (HVAC) system, which has an estimated useful life of only 8 years. Compute the first year of depreciation expense using straight-line component depreciation.

**BE9-8.** *Compute revised depreciation*.

(LO 2)

On January 1, 2017, the Vasquez SA ledger shows Equipment €32,000 and Accumulated Depreciation—Equipment €9,000. The depreciation resulted from using the straight-line method with a useful life of 10 years and residual value of €2,000. On this date, the company concludes that the equipment has a remaining useful life of only 4 years with the same residual value. Compute the revised annual depreciation.

**BE9-9.** *Prepare entries for revaluation of plant assets*.

(LO 2)

At the end of its first year of operations, Brianna Company chose to use the revaluation framework allowed under IFRS. Brianna's ledger shows Equipment £480,000 and Accumulated Depreciation—Equipment £60,000. Prepare journal entries to record the following.

(a) Independent appraisers determine that the plant assets have a fair value of £468,000.

(b) Independent appraisers determine that the plant assets have a fair value of £400,000.

**BE9-10.** *Prepare entries for delivery truck costs*.

(LO 3)

Tong Company had the following two transactions related to its delivery truck.

1. Paid €45 for an oil change.

2. Paid €580 to install special gear unit, which increases the operating efficiency of the truck.

Prepare Tong's journal entries to record these two transactions.

**BE9-11.** *Prepare entries for disposal by retirement*.

(LO 4)

Prepare journal entries to record the following.

(a) Matterhorn AG retires its delivery equipment, which cost CHF44,000. Accumulated depreciation is also CHF44,000 on this delivery equipment. No residual value is received.

(b) Assume the same information as (a), except that accumulated depreciation is CHF37,000, instead of CHF44,000, on the delivery equipment.

**BE9-12.** *Prepare entries for disposal by sale*.

(LO 4)

Arma Ltd. sells equipment on September 30, 2017, for £20,000 cash. The equipment originally cost £72,000 and as of January 1, 2017, had accumulated depreciation of £42,000. Depreciation for the first 9 months of 2017 is £4,800. Prepare the journal entries to (a) update depreciation to September 30, 2017, and (b) record the sale of the equipment.

**BE9-13.** *Prepare depletion expense entry and statement of financial position presentation for natural resources*.

(LO 5)

Jackie Chan Mining Co. purchased for ¥7 million a mine that is estimated to have 28 million tons of ore and no residual value. In the first year, 4.7 million tons of ore are extracted and sold.

(a) Prepare the journal entry to record depletion expense for the first year.

(b) Show how this mine is reported on the statement of financial position at the end of the first year.

**BE9-14.** *Prepare amortization expense entry and statement of financial position presentation for intangibles*.

(LO 6)

Felipe SA purchases a patent for R$120,000 on January 2, 2017. Its estimated useful life is 8 years.

(a) Prepare the journal entry to record amortization expense for the first year.

(b) Show how this patent is reported on the statement of financial position at the end of the first year.

**BE9-15.** *Prepare entry for research and development costs*.

(LO 6)

Newell Industries spent €260,000 on research and €600,000 on development of a new product. Of the €600,000 in development costs, €400,000 was incurred prior to technological feasibility and €200,000 after technological feasibility had been demonstrated. Prepare the journal entry to record research and development costs.

**BE9-16.** *Classify long-lived assets on statement of financial position*.

(LO 7)

Information related to plant assets, extractable natural resources, and intangibles at the end of 2017 for Loomis Company is as follows: buildings £1,300,000; accumulated depreciation—buildings £650,000; goodwill £410,000; coal mine £500,000; accumulated depletion—coal mine £122,000. Prepare a partial statement of financial position of Loomis Company, Ltd. for these items.

**BE9-17.** *Analyze long-lived assets*.

(LO 7)

In its 2013 annual report, Target (USA) reported beginning total assets of $48.2 billion; ending total assets of $44.6 billion; and net sales of $72.6 billion. Compute Target's asset turnover ratio.

**\*BE9-18.** *Prepare entry for disposal by exchange*.

(LO 8)

Cordero Company SLU exchanges old delivery equipment for new delivery equipment. The book value of the old delivery equipment is €33,000 (cost €61,000 less accumulated depreciation €28,000). Its fair value is €19,000, and cash of €5,000 is paid. Prepare the entry to record the exchange, assuming the transaction has commercial substance.

**\*BE9-19.** *Prepare entry for disposal by exchange*.

(LO 8)

Assume the same information as \*BE9-18, except that the fair value of the old delivery equipment is €37,200. Prepare the entry to record the exchange.

**DO IT! REVIEW**

**DO IT! 9-1.** *Explain accounting for cost of plant assets*.

(LO 1)

Yockey Company Ltd. purchased a delivery truck. The total cash payment was £27,820 including the following items.

|  |  |
| --- | --- |
| Negotiated purchase price | £24,000 |
| Installation of special shelving | 1,200 |
| Painting and lettering | 780 |
| Motor vehicle license | 140 |
| Annual insurance policy | 800 |
| Sales tax | 1,300 |
| Total paid | £28,220 |

Explain how each of these costs would be accounted for.

**DO IT! 9-2.** *Calculate depreciation expense and make journal entry*.

(LO 2)

On January 1, 2017, Rolling Hills Country Club purchased a new riding mower for £18,000. The mower is expected to have an 8-year life with a £2,000 residual value. What journal entry would Rolling Hills make at December 31, 2017, if it uses straight-line depreciation?

**DO IT! 9-3.** *Calculate revised depreciation*.

(LO 2)

Savin NV purchased a piece of equipment for €50,000. It estimated a 6-year life and €2,000 residual value. At the end of year four (before the depreciation adjustment), it estimated the new total life to be 8 years and the new residual value to be €4,000. Compute the revised depreciation.

**DO IT! 9-4.** *Make journal entries to record plant asset disposal*.

(LO 4)

Forgetta Manufacturing has old equipment that cost €48,000. The equipment has accumulated depreciation of €28,000. Forgetta has decided to sell the equipment.

(a) What entry would Forgetta make to record the sale of the equipment for €26,000 cash?

(b) What entry would Forgetta make to record the sale of the equipment for €15,000 cash?

**DO IT! 9-5.** *Match intangibles classifications concepts*.

(LO 6)

Match the statement with the term most directly associated with it.

|  |  |
| --- | --- |
| (a) Goodwill | (d) Amortization |
| (b) Intangible assets | (e) Franchises |
| (c) Development expenses | (f) Development costs |

1. \_\_\_\_\_\_\_\_ Rights, privileges, and competitive advantages that result from the ownership of long-lived assets that do not possess physical substance.

2. \_\_\_\_\_\_\_\_ The allocation of the cost of an intangible asset to expense in a rational and systematic manner.

3. \_\_\_\_\_\_\_\_ A right to sell certain products or services, or use certain trademarks or trade names within a designated geographic area.

4. \_\_\_\_\_\_\_\_ Costs incurred after technological feasibility to complete the development of a new product.

5. \_\_\_\_\_\_\_\_ The excess of the cost of a company over the fair value of the net assets acquired.

6. \_\_\_\_\_\_\_\_ Costs incurred after research to bring a new product to a state of technological feasibility.

**DO IT! 9-6.** *Calculate asset turnover*.

(LO 7)

For 2017, Sale Company reported beginning total assets of $300,000 and ending total assets of $340,000. Its net income for this period was $50,000, and its net sales were $400,000. Compute the company’s asset turnover for 2017.

EXERCISES

**E9-1.** *Determine cost of plant acquisitions*.

(LO 1)

The following expenditures (in thousands) relating to plant assets were made by Lee Jung, Ltd. during the first 2 months of 2017.

1. Paid ₩5,000 of accrued taxes at time plant site was acquired.

2. Paid ₩400 insurance to cover possible accident loss on new factory machinery while the machinery was in transit.

3. Paid ₩850 sales taxes on new delivery truck.

4. Paid ₩17,500 for parking lots and driveways on new plant site.

5. Paid ₩310 to have company name and advertising slogan painted on new delivery truck.

6. Paid ₩8,000 for installation of new factory machinery.

7. Paid ₩900 for one-year accident insurance policy on new delivery truck.

8. Paid ₩90 motor vehicle license fee on the new truck.

***Instructions***

(a) Explain the application of the historical cost principle in determining the acquisition cost of plant assets.

(b) List the numbers of the foregoing transactions, and opposite each indicate the account title to which each expenditure should be debited.

**E9-2.** *Determine property, plant, and equipment costs*.

(LO 1)

Bliesmer SE incurred the following costs.

|  |  |
| --- | --- |
| 1. Sales tax on factory machinery purchased | €­5,000 |
| 2. Painting of and lettering on truck immediately upon purchase | 700 |
| 3. Installation and testing of factory machinery | 2,000 |
| 4. Real estate broker's commission on land purchased | 3,500 |
| 5. Insurance premium paid for first year's insurance on new truck | 1,100 |
| 6. Cost of landscaping on property purchased | 7,200 |
| 7. Cost of paving parking lot for new building constructed | 17,900 |
| 8. Cost of clearing, draining, and filling land | 12,600 |
| 9. Architect's fees on self-constructed building | 10,000 |

***Instructions***

Indicate to which account Bliesmer would debit each of the costs.

**E9-3.** *Determine acquisition costs of land*.

(LO 1)

On March 1, 2017, Rollinger Company acquired real estate on which it planned to construct a small office building. The company paid €86,000 in cash. An old warehouse on the property was razed at a cost of €9,400; the salvaged materials were sold for €1,700. Additional expenditures before construction began included €1,100 attorney's fee for work concerning the land purchase, €5,100 real estate broker's fee, €7,800 architect's fee, and €12,700 to put in driveways and a parking lot.

***Instructions***

(a) Determine the amount to be reported as the cost of the land.

(b) For each cost not used in part (a), indicate the account to be debited.

**E9-4.** *Understand depreciation concepts*.

(LO 2)

Ann Tremel has prepared the following list of statements about depreciation.

1. Depreciation is a process of asset valuation, not cost allocation.

2. Depreciation provides for the proper matching of expenses with revenues.

3. The book value of a plant asset should approximate its fair value.

4. Depreciation applies to three classes of plant assets: land, buildings, and equipment.

5. Depreciation does not apply to a building because its usefulness and revenue-producing ability generally remain intact over time.

6. The revenue-producing ability of a depreciable asset will decline due to wear and tear and to obsolescence.

7. Recognizing depreciation on an asset results in an accumulation of cash for replacement of the asset.

8. The balance in accumulated depreciation represents the total cost that has been charged to expense.

9. Depreciation expense and accumulated depreciation are reported on the income statement.

10. Three factors affect the computation of depreciation: cost, useful life, salvage value, and residual value.

***Instructions***

Identify each statement as true or false. If false, indicate how to correct the statement.

**E9-5.** *Compute depreciation under units-of-activity method*.

(LO 2)

Copacabana Bus Lines uses the units-of-activity method in depreciating its buses. One bus was purchased on January 1, 2017, at a cost of R$145,000. Over its 4-year useful life, the bus is expected to be driven 100,000 miles. Residual value is expected to be R$15,000.

***Instructions***

(a) Compute the depreciable cost per unit.

(b) Prepare a depreciation schedule assuming actual mileage was: 2017, 27,000; 2018, 32,000; 2019, 24,000; and 2020, 17,000.

**E9-6.** *Determine depreciation for partial periods*.

(LO 2)

Xanadu A/S purchased a new machine on October 1, 2017, at a cost of €96,000. The company estimated that the machine will have a residual value of €12,000. The machine is expected to be used for 10,000 working hours during its 5-year life.

***Instructions***

Compute the depreciation expense under the following methods for the year indicated.

(a) Straight-line for 2017.

(b) Units-of-activity for 2017, assuming machine usage was 1,700 hours.

(c) Declining-balance using double the straight-line rate for 2017 and 2018.

**E9-7.** *Compute depreciation using different methods*.

(LO 2)

Tanger Company purchased a delivery truck for R$38,000 on January 1, 2017. The truck has an expected residual value of R$6,000, and is expected to be driven 100,000 miles over its estimated useful life of 8 years. Actual miles driven were 15,000 in 2017 and 12,000 in 2018.

***Instructions***

(a) Compute depreciation expense for 2017 and 2018 using (1) the straight-line method, (2) the units-of-activity method, and (3) the double-declining-balance method.

(b) Assume that Tanger uses the straight-line method.

1. Prepare the journal entry to record 2017 depreciation.

2. Show how the truck would be reported in the December 31, 2017, statement of financial position.

**E9-8.** *Compute depreciation under component method*.

(LO 2)

Mooney Ltd. completed construction of an office building for £2,400,000 on December 31, 2016. The company estimated that the building would have a residual value of £0 and a useful life of 40 years. A more detailed review of the expenditures related to the building indicates that £300,000 of the total cost was used for personal property and £180,000 for land improvements. The personal property has a depreciable life of 5 years and land improvements have a depreciable life of 10 years.

***Instructions***

Compute depreciation expense for 2017 using component depreciation and the straight-line method.

**E9-9.** *Compute revised annual depreciation*.

(LO 2)

Steve Grant, the new controller of Greenbriar Ltd., has reviewed the expected useful lives and residual values of selected depreciable assets at the beginning of 2017. His findings are as follows.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Type of** |  | **Date** |  |  |  | **Accumulated Depreciation 1/1/17** |  | **Total Useful Life in Years** | | |  | **Residual Value** | | |
| **Asset** |  | **Acquired** |  | **Cost** |  |  | **Old** |  | **Proposed** |  | **Old** |  | **Proposed** |
| Building |  | 1/1/07 |  | £800,000 |  |  |  | 40 |  | 50 |  | £40,000 |  | £18,000 |
| Warehouse |  | 1/1/12 |  | 100,000 |  |  |  | 25 |  | 20 |  | 10,000 |  | 3,700 |

All assets are depreciated by the straight-line method. Greenbriar uses a calendar year in preparing annual financial statements. After discussion, management has agreed to accept Grant's proposed changes.

***Instructions***

(a) Compute the revised annual depreciation on each asset in 2017. (Show computations.)

(b) Prepare the entry (or entries) to record depreciation on the building in 2017.

**E9-10.** *Journalize entries for straight-line depreciation and revaluation*.

(LO 2)

Barton Enterprises purchased equipment on January 1, 2017, at a cost of €350,000. Barton uses the straight -line depreciation method, a 5-year estimated useful life, and no residual value. At the end of 2017, independent appraisers determined that the assets have a fair value of €320,000.

***Instructions***

(a) Prepare the journal entry to record 2017 depreciation using the straight-line method.

(b) Prepare the journal entry to record the revaluation of the equipment.

(c) Prepare the journal entry to record 2018 depreciation, assuming no additional revaluation.

**E9-11.** *Journalize entries for straight-line depreciation and revaluation*.

(LO 2)

At December 31, 2017, the end of its first year of operation, Franklin SA chose to use the revaluation framework allowed under IFRS. Franklin’s ledger shows Equipment €750,000 and Accumulated Depreciation─Equipment €150,000.

***Instructions***

(a) Independent appraisers determine that the plant assets have a fair value of €660,000. Record the revaluation.

(b) Using your answer from part (a), what would be the amount of Franklin’s 2018 depreciation? Assume no change in the value of Franklin’s equipment in 2018, a 4-year remaining life, and no residual value.

(c) Independent appraisers determine that the plant assets have a fair value of €520,000. Record the revaluation. (Ignore your answers to parts (a) and (b).)

(d) Using your answer from part (c), what would be the amount of Franklin’s 2018 depreciation? Assume no change in the value of Franklin’s equipment in 2018, a 4-year remaining life, and no residual value.

**E9-12.** *Journalize entries for disposal of plant assets*.

(LO 4)

Presented below are selected transactions at Ingles Company for 2017.

Jan. 1 Retired a piece of machinery that was purchased on January 1, 2007. The machine cost £58,000 on that date. It had a useful life of 10 years with no residual value.

June 30 Sold a computer that was purchased on January 1, 2014. The computer cost £40,000. It had a useful life of 5 years with no residual value. The computer was sold for £14,000.

Dec. 31 Discarded a delivery truck that was purchased on January 1, 2013. The truck cost £34,000. It was depreciated based on a 6-year useful life with a £4,000 residual value.

***Instructions***

Journalize all entries required on the above dates, including entries to update depreciation, where applicable, on assets disposed of. Ingles Company uses straight-line depreciation. (Assume depreciation is up to date as of December 31, 2016.)

**E9-13.** *Journalize entries for disposal of equipment*.

(LO 4)

Francis Company owns equipment that cost €50,000 when purchased on January 1, 2014. It has been depreciated using the straight-line method based on estimated residual value of €8,000 and an estimated useful life of 5 years.

***Instructions***

Prepare Francis Company's journal entries to record the sale of the equipment in these four independent situations.

(a) Sold for €28,000 on January 1, 2017.

(b) Sold for €28,000 on May 1, 2017.

(c) Sold for €11,000 on January 1, 2017.

(d) Sold for €11,000 on October 1, 2017.

**E9-14.** *Journalize entries for extractable natural resources depletion*.

(LO 5)

On July 1, 2017, Ticino AG invested CHF736,000 in a mine estimated to have 800,000 tons of ore of uniform grade. During the last 6 months of 2017, 124,000 tons of ore were mined and sold.

***Instructions***

(a) Prepare the journal entry to record depletion expense.

(b) Assume that the 124,000 tons of ore were mined, but only 90,000 units were sold. How are the costs applicable to the 34,000 unsold units reported?

**E9-15.** *Prepare adjusting entries for amortization*.

(LO 6)

The following are selected 2017 transactions of Yosuke Ltd.

Jan. 1 Purchased a small company and recorded goodwill of €150,000. Its useful life is indefinite.

May 1 Purchased for €84,000 a patent with an estimated useful life of 5 years and a legal life of 20 years.

***Instructions***

Prepare necessary adjusting entries at December 31 to record amortization required by the events above.

**E9-16.** *Prepare entries to set up appropriate accounts for different intangibles; amortize intangible assets*.

(LO 6)

Nelson Company, organized in 2017, has the following transactions related to intangible assets.

|  |  |  |
| --- | --- | --- |
| 1/2/17 | Purchased patent (7-year life) | $560,000 |
| 4/1/17 | Goodwill purchased (indefinite life) | 360,000 |
| 7/1/17 | 8-year franchise; expiration date 7/1/2025 | 440,000 |
| 11/1/17 | Research and development costs incurred  prior to technological feasibility | 448,000 |

***Instructions***

Prepare the necessary entries to record these intangibles. All costs incurred were for cash. Make the adjusting entries as of December 31, 2017, recording any necessary amortization and reflecting all balances accurately as of that date.

**E9-17.** *Calculate asset turnover ratio*.

(LO 7)

During 2017, Otaki Ltd. reported net sales of €5,200,000 and net income of €1,500,000. Its statement of financial position reported average total assets of €1,600,000.

***Instructions***

Calculate the asset turnover ratio.

**\*E9-18.** *Journalize entries for exchanges*.

(LO 8)

Presented below are two independent transactions. Both transactions have commercial substance.

1. Global Co. exchanged old trucks (cost £64,000 less £22,000 accumulated depreciation) plus cash of £17,000 for new trucks. The old trucks had a fair value of £37,400.

2. Rijo Ltd. trades its used machine (cost £12,000 less £4,000 accumulated depreciation) for a new machine. In addition to exchanging the old machine (which had a fair value of £9,000), Rijo also paid cash of £3,200.

***Instructions***

(a) Prepare the entry to record the exchange of assets by Global Co.

(b) Prepare the entry to record the exchange of assets by Rijo Ltd.

**\*E9-19.** *Journalize entries for the exchange of plant assets*.

(LO 8)

Jay's Delivery Company and Astro's Express Delivery exchanged delivery trucks on January 1, 2017. Jay's truck cost €22,000. It has accumulated depreciation of €16,000 and a fair value of €4,000. Astro's truck cost €10,000. It has accumulated depreciation of €7,000 and a fair value of €4,000. The transaction has commercial substance.

***Instructions***

(a) Journalize the exchange for Jay's Delivery Company.

(b) Journalize the exchange for Astro's Express Delivery.

PROBLEMS: SET A AND PROBLEMS: SET B

**P9-1A** *Determine acquisition costs of land and building*.

(LO 1)

Diaz Company was organized on January 1. During the first year of operations, the following plant asset expenditures and receipts were recorded in random order.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | **Debit** | |  | | |
| 1. | Cost of filling and grading the land | | | | | €  6,600 |
| 2. | Full payment to building contractor | | | | | 780,000 |
| 3. | Real estate taxes on land paid for the current year | | | | | 5,000 |
| 4. | Cost of real estate purchased as a plant site (land €100,000 and | | | | |  |
|  | building €45,000) | | | | | 145,000 |
| 5. | Excavation costs for new building | | | | | 35,000 |
| 6. | Architect's fees on building plans | | | | | 10,500 |
| 7. | Accrued real estate taxes paid at time of purchase of real estate | | | | | 2,800 |
| 8. | Cost of parking lots and driveways | | | | | 14,000 |
| 9. | Cost of demolishing building to make land suitable for | | | | |  |
|  | construction of new building | | | | | 15,000 |
|  |  | | | | | €1,013,900 |
|  | | | **Credit** | |  | |
| 10. | Proceeds from salvage of demolished building | | | | | € 3,600 |

***Instructions***

Analyze the foregoing transactions using the following column headings. Insert the number of each transaction in the Item column, and insert the amounts in the appropriate columns. For amounts entered in the Other Accounts column, also indicate the account titles.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item** |  | **Land** |  | **Buildings** |  | **Other Accounts** |

|  |
| --- |
| Totals |
| Land €165,800 |
| Buildings €825,500 |

**P9-2A** *Compute depreciation under different methods*.

(LO 2)

In recent years, Freeman Transportation purchased three used buses. Because of frequent turnover in the accounting department, a different accountant selected the depreciation method for each bus, and various methods were selected. Information concerning the buses is summarized below.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Bus** |  | **Acquired** |  | **Cost** |  | **Residual Value** |  | **Useful Life in Years** |  | **Depreciation Method** |
| 1 |  | 1/1/15 |  | £96,000 |  | £6,000 |  | 5 |  | Straight-line |
| 2 |  | 1/1/15 |  | 140,000 |  | 10,000 |  | 4 |  | Declining-balance |
| 3 |  | 1/1/16 |  | 92,000 |  | 8,000 |  | 3 |  | Units-of-activity |

For the declining-balance method, the company uses the double-declining rate. For the units-of-activity method, total miles are expected to be 120,000. Actual miles of use in the first 3 years were 2016, 24,000; 2017, 36,000; and 2018, 31,000.

***Instructions***

(a) Compute the amount of accumulated depreciation on each bus at December 31, 2017.

Bus 2, 2016, £105,000

(b) If Bus 2 was purchased on April 1 instead of January 1, what is the depreciation expense for this bus in (1) 2015 and (2) 2016?

**P9-3A** *Compute depreciation under different methods*.

(LO 2)

On January 1, 2017, Pele SA purchased the following two machines for use in its production process.

Machine A: The cash price of this machine was R$35,000. Related expenditures included: sales tax R$2,200, shipping costs R$150, insurance during shipping R$80, installation and testing costs R$70, and R$100 of oil and lubricants to be used with the machinery during its first year of operations. Pele estimates that the useful life of the machine is 5 years with a R$5,000 residual value remaining at the end of that time period. Assume that the straight-line method of depreciation is used.

Machine B: The recorded cost of this machine was R$80,000. Pele estimates that the useful life of the machine is 4 years with a R$5,000 residual value remaining at the end of that time period.

***Instructions***

(a) Prepare the following for Machine A.

1. The journal entry to record its purchase on January 1, 2017.

2. The journal entry to record annual depreciation at December 31, 2017.

(b) Calculate the amount of depreciation expense that Pele should record for Machine B each year of its useful life under the following assumptions.

1. Pele uses the straight-line method of depreciation.

2. Pele uses the declining-balance method. The rate used is twice the straight-line rate.

2017 DDB depreciation R$40,000

3. Pele uses the units-of-activity method and estimates that the useful life of the machine is 125,000 units. Actual usage is as follows: 2017, 42,000 units; 2018, 37,000 units; 2019, 28,000 units; 2020, 18,000 units.

(c) Which method used to calculate depreciation on Machine B reports the highest amount of depreciation expense in year 1 (2017)? The highest amount in year 4 (2020)? The highest total amount over the 4-year period?

**P9-4A** *Calculate revisions to depreciation expense*.

(LO 2)

At the beginning of 2015, Mansen plc acquired equipment costing £80,000. It was estimated that this equipment would have a useful life of 6 years and a residual value of £8,000 at that time. The straight-line method of depreciation was considered the most appropriate to use with this type of equipment. Depreciation is to be recorded at the end of each year.

During 2017 (the third year of the equipment's life), the company's engineers reconsidered their expectations, and estimated that the equipment's useful life would probably be 7 years (in total) instead of 6 years. The estimated residual value was not changed at that time. However, during 2020 the estimated residual value was reduced to £4,400.

***Instructions***

Indicate how much depreciation expense should be recorded each year for this equipment, by completing the following table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** |  | **Depreciation Expense** |  | **Accumulated Depreciation** |
| 2015 |  |  |  |  |
| 2016 |  |  |  |  |
| 2017 |  |  |  |  |
| 2018 |  |  |  |  |
| 2019 |  |  |  |  |
| 2020 |  |  |  |  |
| 2021 |  |  |  |  |

2021 depreciation expense, £11,400

**P9-5A** *Journalize a series of equipment transactions related to purchase, sale, retirement, and depreciation*.

(LO 2, 4, 7)

At December 31, 2016, Jimenez Company reported the following as plant assets.

|  |  |  |  |
| --- | --- | --- | --- |
| Land |  |  | €3,000,000 |
| Buildings | €26,500,000 |  |  |
| Less: Accumulated depreciation—buildings | 12,100,000 |  | 14,400,000 |
| Equipment | 40,000,000 |  |  |
| Less: Accumulated depreciation—equipment | 5,000,000 |  | 35,000,000 |
| Total plant assets |  |  | €52,400,000 |

During 2017, the following selected cash transactions occurred.

April 1 Purchased land for €2,200,000.

May 1 Sold equipment that cost €750,000 when purchased on January 1, 2013. The equipment was sold for €466,000.

June 1 Sold land purchased on June 1, 2007 for €1,800,000. The land cost €300,000.

July 1 Purchased equipment for €2,450,000.

Dec. 31 Retired equipment that cost €500,000 when purchased on December 31, 2007. No residual value was received.

***Instructions***

(a) Journalize the above transactions. The company uses straight-line depreciation for buildings and equipment. The buildings are estimated to have a 50-year life and no residual value. The equipment is estimated to have a 10-year useful life and no residual value. Update depreciation on assets disposed of at the time of sale or retirement.

(b) Record adjusting entries for depreciation for 2017.

Depreciation Expense—Buildings €530,000; Equipment €3,997,500

(c) Prepare the plant assets section of Jimenez's statement of financial position at December 31, 2017.

Total plant assets €51,772,500

**P9-6A** *Record disposals*

(LO 4)

Yount Co. has equipment that cost €50,000 and that has been depreciated €22,000.

***Instructions***

Record the disposal under the following assumptions.

(a) It was scrapped as having no value.

(b) It was sold for €25,000.

(c) It was sold for €31,000.

**P9-7A** *Prepare entries to record transactions related to acquisition and amortization of intangibles; prepare the intangible assets section*.

(LO 6, 7)

The intangible assets section of Glover Ltd. at December 31, 2016, is presented below.

|  |  |
| --- | --- |
| Patents (£60,000 cost less £6,000 amortization) | £54,000 |
| Franchises (£48,000 cost less £19,200 amortization) | 28,800 |
| Total | £82,800 |

The patent was acquired in January 2016 and has a useful life of 10 years. The franchise was acquired in January 2013 and also has a useful life of 10 years. The following cash transactions may have affected intangible assets during 2017.

Jan. 2 Paid £45,000 legal costs to successfully defend the patent against infringement by another company.

Jan.-June Developed a new product, incurring £100,000 in research costs. A patent was granted for the product on July 1. Its useful life is equal to its 20-year legal life.

Sept. 1 Paid £58,000 to an extremely large defensive lineman to appear in commercials advertising the company's products. The commercials will air in September and October.

Oct. 1 Acquired a franchise for £100,000. The franchise has a useful life of 40 years.

***Instructions***

(a) Prepare journal entries to record the transactions above.

(b) Prepare journal entries to record the 2017 amortization expense.

Amortization Expense (patents) £11,000

Amortization Expense (franchises) £5,425

(c) Prepare the intangible assets section of the statement of financial position at December 31, 2017.

Total intangible assets £203211,375

**P9-8A** *Prepare entries to correct errors made in recording and amortizing intangible assets*.

(LO 6)

Due to rapid turnover in the accounting department, a number of transactions involving intangible assets were improperly recorded by the Buek Company in 2017.

1. Buek developed a new manufacturing process, incurring research costs of €97,000 and development costs prior to technological feasibility of €50,000. The company also purchased a patent for €60,000. In early January, Buek capitalized €207,000 as the cost of the patents. Patent amortization expense of €10,350 was recorded based on a 20-year useful life.

2. On July 1, 2017, Buek purchased a small company and as a result acquired goodwill of €80,000. Buek recorded a half-year's amortization in 2017, based on a 50-year life (€800 amortization). The goodwill has an indefinite life.

***Instructions***

Prepare all journal entries necessary to correct any errors made during 2017. Assume the books have not yet been closed for 2017.

Research and Develop. Exp. €147,000

**P9-9A** *Calculate and comment on asset turnover ratio*.

(LO 7)

Luó Ltd. and Zhào Ltd., two corporations of roughly the same size, are both involved in the manufacture of in-line skates. Each company depreciates its plant assets using the straight-line approach. An investigation of their financial statements reveals the following information.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Luó Ltd.** |  | **Zhào Ltd.** |
| Net income | HK$ 400,000 |  | HK$ 450,000 |
| Sales revenue | 1,240,000 |  | 1,110,000 |
| Average total assets | 2,000,000 |  | 1,500,000 |
| Average plant assets | 1,500,000 |  | 800,000 |

***Instructions***

(a) For each company, calculate the asset turnover ratio.

(b) Based on your calculations in part (a), comment on the relative effectiveness of the two companies in using their assets to generate sales and produce net income.

**Problems: Set B**

**P9-1B** *Determine acquisition costs of land and building*.

(LO 1)

Foxx Ltd. was organized on January 1. During the first year of operations, the following plant asset expenditures and receipts were recorded in random order.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | **Debit** | |  | | |
| 1. | Accrued real estate taxes paid at time of purchase of real estate | | | | | £ 9,000 |
| 2. | Real estate taxes on land paid for the current year | | | | | 6,100 |
| 3. | Full payment to building contractor | | | | | 520,000 |
| 4. | Excavation costs for new building | | | | | 19,000 |
| 5. | Cost of real estate purchased as a plant site (land £75,000 and | | | | |  |
|  | building £25,000) | | | | | 100,000 |
| 6. | Cost of parking lots and driveways | | | | | 18,000 |
| 7. | Architect's fees on building plans | | | | | 9,000 |
| 8. | Installation cost of fences around property | | | | | 6,000 |
| 9. | Cost of demolishing building to make land suitable for construction | | | | |  |
|  | of new building | | | | | 19,000 |
|  |  | | | | | £760,100 |
|  | | | **Credit** | |  | |
| 10. | Proceeds from salvage of demolished building | | | | | £ 4,200 |

***Instructions***

Analyze the foregoing transactions using the following column headings. Insert the number of each transaction in the Item column, and insert the amounts in the appropriate columns. For amounts entered in the Other Accounts column, also indicate the account title.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item** |  | **Land** |  | **Buildings** |  | **Other Accounts** |

|  |
| --- |
| Totals |
| Land £123,800 |
| Buildings £548,000 |

**P9-2B** *Compute depreciation under different methods*.

(LO 2)

In recent years, Wáng Company purchased three machines. Because of heavy turnover in the accounting department, a different accountant was in charge of selecting the depreciation method for each machine, and each selected a different method. Information concerning the machines is summarized below.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Machine** |  | **Acquired** |  | **Cost** |  | **Residual Value** |  | **Useful Life in Years** |  | **Depreciation Method** |
| 1 |  | 1/1/14 |  | ¥105,000 |  | ¥5,000 |  | 8 |  | Straight-line |
| 2 |  | 1/1/15 |  | 150,000 |  | 10,000 |  | 10 |  | Declining-balance |
| 3 |  | 11/1/17 |  | 100,000 |  | 15,000 |  | 6 |  | Units-of-activity |

For the declining-balance method, the company uses the double-declining rate. For the units-of-activity method, total machine hours are expected to be 25,000. Actual hours of use in the first 3 years were 2017, 1,300; 2018, 4,100; and 2019, 5,500.

***Instructions***

(a) Compute the amount of accumulated depreciation on each machine at December 31, 2017.

Machine 2, 2016, ¥54,000

(b) If Machine 2 had been purchased on May 1 instead of January 1, what would be the depreciation expense for this machine in (1) 2015 and (2) 2016?

**P9-3B** *Compute depreciation under different methods*.

(LO 2)

On January 1, 2017, Abraham SA purchased the following two machines for use in its production process.

Machine A: The cash price of this machine was €55,000. Related expenditures included: sales tax €3,300, shipping costs €325, insurance during shipping €75, installation and testing costs €1,300, and €90 of oil and lubricants to be used with the machinery during its first year of operation. Abraham estimates that the useful life of the machine is 4 years with a €6,000 residual value remaining at the end of that time period.

Machine B: The recorded cost of this machine was €130,000. Abraham estimates that the useful life of the machine is 5 years with a €10,000 residual value remaining at the end of that time period.

***Instructions***

(a) Prepare the following for Machine A.

1. The journal entry to record its purchase on January 1, 2017.

2. The journal entry to record annual depreciation at December 31, 2017, assuming the straightline method of depreciation is used.

€13,500

(b) Calculate the amount of depreciation expense that Abraham should record for Machine B each year of its useful life under the following assumption.

1. Abraham uses the straight-line method of depreciation.

2. Abraham uses the declining-balance method. The rate used is twice the straight-line rate.

3. Abraham uses the units-of-activity method and estimates the useful life of the machine is 24,000 units. Actual usage is as follows: 2017, 4,700 units; 2018, 8,200 units; 2019, 6,800 units; 2020, 2,500 units; 2021, 1,800 units.

(c) Which method used to calculate depreciation on Machine B reports the lowest amount of depreciation expense in year 1 (2017)? The lowest amount in year 5 (2021)? The lowest total amount over the 5-year period?

**P9-4B** *Calculate revisions to depreciation expense*.

(LO 2)

At the beginning of 2015, Bellamy Company acquired equipment costing £60,000. It was estimated that this equipment would have a useful life of 6 years and a residual value of £6,000 at that time. The straight-line method of depreciation was considered the most appropriate to use with this type of equipment. Depreciation is to be recorded at the end of each year.

During 2017 (the third year of the equipment's life), the company's engineers reconsidered their expectations, and estimated that the equipment's useful life would probably be 7 years (in total) instead of 6 years. The estimated residual value was not changed at that time. However, during 2020 the estimated residual value was reduced to £3,000.

***Instructions***

Indicate how much depreciation expense should be recorded for this equipment each year by completing the following table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** |  | **Depreciation Expense** |  | **Accumulated Depreciation** |
| 2015 |  |  |  |  |
| 2016 |  |  |  |  |
| 2017 |  |  |  |  |
| 2018 |  |  |  |  |
| 2019 |  |  |  |  |
| 2020 |  |  |  |  |
| 2021 |  |  |  |  |

2021 depreciation expense, £8,700

**P9-5B** *Journalize a series of equipment transactions related to purchase, sale, retirement, and depreciation*.

(LO 2, 4, 7)

At December 31, 2016, Durango Ltd. reported the following as plant assets.

|  |  |  |  |
| --- | --- | --- | --- |
| Land |  |  | £2,000,000 |
| Buildings | £28,500,000 |  |  |
| Less: Accumulated depreciation—buildings | 12,100,000 |  | 16,400,000 |
| Equipment | 30,000,000 |  |  |
| Less: Accumulated depreciation—equipment | 4,000,000 |  | 26,000,000 |
| Total plant assets |  |  | £44,400,000 |

During 2017, the following selected cash transactions occurred.

April 1 Purchased land for £1,350,000.

May 1 Sold equipment that cost £420,000 when purchased on January 1, 2013. The equipment was sold for £248,000.

June 1 Sold land purchased on June 1, 2007, for £1,000,000. The land cost £310,000.

Oct. 1 Purchased equipment for £1,260,000.

Dec. 31 Retired equipment that cost £300,000 when purchased on December 31, 2007. No residual value was received.

***Instructions***

(a) Journalize the above transactions. Durango uses straight-line depreciation for buildings and equipment. The buildings are estimated to have a 50-year useful life and no residual value. The equipment is estimated to have a 10-year useful life and no residual value. Update depreciation on assets disposed of at the time of sale or retirement.

(b) Record adjusting entries for depreciation for 2017.

Depreciation Expense—Buildings £570,000; Equipment £2,959,500

(c) Prepare the plant assets section of Durango's statement of financial position at December 31, 2017.

Total plant assets £42,888,500

**P9-6B** *Record disposals*.

(LO 4)

Vermeer NV has equipment that cost €40,000 and that has been depreciated €29,000.

***Instructions***

Record the disposal under the following assumptions.

(a) It was scrapped as having no value.

(b) It was sold for €24,000.

(c) It was sold for €10,000.

**P9-7B** *Prepare entries to record transactions related to acquisition and amortization of intangibles; prepare the intangible assets section*.

(LO 6, 7)

The intangible assets section of Whitley Company at December 31, 2016, is presented below.

|  |  |
| --- | --- |
| Patents (£100,000 cost less £10,000 amortization) | £90,000 |
| Copyrights (£80,000 cost less £32,000 amortization) | 48,000 |
| Total | £138,800 |

The patent was acquired in January 2016 and has a useful life of 10 years. The copyright was acquired in January 2013 and also has a useful life of 10 years. The following cash transactions may have affected intangible assets during 2017.

Jan. 2 Paid £48,600 legal costs to successfully defend the patent against infringement by another company.

Jan.-June Developed a new product, incurring £110,000 in research costs and £120,000 in development costs prior to technological feasibility. A patent was granted for the product on July 1. Its useful life is equal to its legal life.

Sept. 1 Paid £125,000 to an X-Games star to appear in commercials advertising the company's products. The commercials will air in September and October.

Oct. 1 Acquired a copyright for £192,000. The copyright has a useful life of 40 years.

***Instructions***

(a) Prepare journal entries to record the transactions above.

(b) Prepare journal entries to record the 2017 amortization expense for intangible assets.

Amortization Expense (patents) £15,400; Amortization Expense (copyrights) £9,200

(c) Prepare the intangible assets section of the statement of financial position at December 31, 2017.

Total intangible assets, £354,000

(d) Prepare the note to the financials on Whitley's intangibles as of December 31, 2017.

**P9-8B** *Prepare entries to correct errors made in recording and amortizing intangible assets*.

(LO 6)

Due to rapid turnover in the accounting department, a number of transactions involving intangible assets were improperly recorded by Kaya A.S. in 2017.

1. Kaya developed a new manufacturing process, incurring research costs of   
[Turkish lira symbol black.svg](http://zh.wikipedia.org/wiki/%E5%9C%9F%E8%80%B3%E5%85%B6%E9%87%8C%E6%8B%89%E7%AC%A6%E5%8F%B7)110,000 before reaching technological feasibility. The company also purchased a patent for [Turkish lira symbol black.svg](http://zh.wikipedia.org/wiki/%E5%9C%9F%E8%80%B3%E5%85%B6%E9%87%8C%E6%8B%89%E7%AC%A6%E5%8F%B7)70,000. In early January, Kaya capitalized   
[Turkish lira symbol black.svg](http://zh.wikipedia.org/wiki/%E5%9C%9F%E8%80%B3%E5%85%B6%E9%87%8C%E6%8B%89%E7%AC%A6%E5%8F%B7)180,000 as the cost of the patents. Patent amortization expense of [Turkish lira symbol black.svg](http://zh.wikipedia.org/wiki/%E5%9C%9F%E8%80%B3%E5%85%B6%E9%87%8C%E6%8B%89%E7%AC%A6%E5%8F%B7)9,000 was recorded based on a 20-year useful life.

2. On July 1, 2017, Kaya purchased a small company and as a result acquired goodwill of [Turkish lira symbol black.svg](http://zh.wikipedia.org/wiki/%E5%9C%9F%E8%80%B3%E5%85%B6%E9%87%8C%E6%8B%89%E7%AC%A6%E5%8F%B7)200,000. Kaya recorded a half-year's amortization in 2017, based on a 40-year life ([Turkish lira symbol black.svg](http://zh.wikipedia.org/wiki/%E5%9C%9F%E8%80%B3%E5%85%B6%E9%87%8C%E6%8B%89%E7%AC%A6%E5%8F%B7)2,500 amortization). The goodwill has an indefinite life.

***Instructions***

Prepare all journal entries necessary to correct any errors made during 2017. Assume the books have not yet been closed for 2017.

Develop. Exp. [Turkish lira symbol black.svg](http://zh.wikipedia.org/wiki/%E5%9C%9F%E8%80%B3%E5%85%B6%E9%87%8C%E6%8B%89%E7%AC%A6%E5%8F%B7)110,000

**P9-9B** *Calculate and comment on asset turnover ratio*.

(LO 7)

Ling Ltd. and Tseng Ltd., two corporations of roughly the same size, are both involved in the manufacture of canoes and sea kayaks. Each company depreciates its plant assets using the straight-line approach. An investigation of their financial statements reveals the following information.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Ling Ltd.** |  | **Tseng Ltd.** |
| Net income | NT$9,000,000 |  | NT$9,750,000 |
| Sales revenue | 36,000,000 |  | 27,900,000 |
| Average total assets | 30,000,000 |  | 30,600,000 |
| Average plant assets | 22,500,000 |  | 23,100,000 |

***Instructions***

(a) For each company, calculate the asset turnover ratio.

(b) Based on your calculations in part (a), comment on the relative effectiveness of the two companies in using their assets to generate sales and produce net income.

COMPREHENSIVE PROBLEM

**9-CP9** Raymond Company's trial balance at December 31, 2014, is presented below. All 2014 transactions have been recorded except for the items described below and.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Debit** |  | **Credit** |
| Cash | £ 28,000 |  |  |
| Accounts Receivable | 36,800 |  |  |
| Notes Receivable | 10,000 |  |  |
| Interest Receivable | -0- |  |  |
| Inventory | 36,200 |  |  |
| Prepaid Insurance | 4,400 |  |  |
| Land | 20,000 |  |  |
| Buildings | 160,000 |  |  |
| Equipment | 60,000 |  |  |
| Patents | 8,000 |  |  |
| Allowance for Doubtful Accounts |  |  | £ 300 |
| Accumulated Depreciation—Buildings |  |  | 49,000 |
| Accumulated Depreciation—Equipment |  |  | 24,000 |
| Accounts Payable |  |  | 28,300 |
| Income Taxes Payable |  |  | -0- |
| Salaries and Wages Payable |  |  | -0- |
| Unearned Rent Revenue |  |  | 6,000 |
| Notes Payable (due in 2018) |  |  | 11,000 |
| Interest Payable |  |  | -0- |
| Notes Payable (due after 2018) |  |  | 35,000 |
| Share Capital—Ordinary |  |  | 50,000 |
| Retained Earnings |  |  | 63,600 |
| Dividends | 12,000 |  |  |
| Sales Revenue |  |  | 910,000 |
| Interest Revenue |  |  | -0- |
| Rent Revenue |  |  | -0- |
| Gain on Disposal of Plant Assets |  |  | -0- |
| Bad Debt Expense | -0- |  |  |
| Cost of Goods Sold | 630,000 |  |  |
| Depreciation Expense | -0- |  |  |
| Income Tax Expense | -0- |  |  |
| Insurance Expense | -0- |  |  |
| Interest Expense | -0- |  |  |
| Other Operating Expenses | 61,800 |  |  |
| Amortization Expense | -0- |  |  |
| Salaries and Wages Expense | 110,000 |  |  |
| Total | £1,177,200 |  | £1,177,200 |

Unrecorded transactions:

1. On May 1, 2017, Raymond purchased equipment for £13,000 plus sales taxes of £780 (all paid in cash).

2. On July 1, 2017, Raymond sold for £3,500 equipment which originally cost £5,000. Accumulated depreciation on this equipment at January 1, 2017, was £1,800; 2017 depreciation prior to the sale of the equipment was £450.

3. On December 31, 2017, Raymond sold for £9,400 on account inventory that cost £6,600.

4. Raymond estimates that uncollectible accounts receivable at year-end is £4,000.

5. The note receivable is a one-year, 8% note dated April 1, 2017. No interest has been recorded.

6. The balance in prepaid insurance represents payment of a £4,400 6-month premium on October 1, 2017.

7. The building is being depreciated using the straight-line method over 40 years. The residual value is £20,000.

8. The equipment owned prior to this year is being depreciated using the straight-line method over 5 years. The residual value is 10% of cost.

9. The equipment purchased on May 1, 2017, is being depreciated using the straight-line method over 5 years, with a residual value of £1,000.

10. The patent was acquired on January 1, 2017, and has a useful life of 10 years from that date.

11. Unpaid salaries and wages at December 31, 2017, total £2,200.

12. The unearned rent revenue of £6,000 was received on December 1, 2017, for 4 months rent.

13. Both the short-term and long-term notes payable are dated January 1, 2017, and carry a 9% interest rate. All interest is payable in the next 12 months.

14. Income tax expense was £17,000. It was unpaid at December 31.

***Instructions***

(a) Prepare journal entries for the transactions listed above.

(b) Prepare an updated December 31, 2017, trial balance.

Totals £1,228,294

(c) Prepare a 2017 income statement and a 2017 retained earnings statement.

Net income £68,256

(d) Prepare a December 31, 2017, classified statement of financial position.

Totals assets £271,996

MATCHA CREATIONS

(*Note*: This is a continuation of the Matcha Creations problem from Chapter 1-8.)

**MC9**Mei-ling is also thinking of buying a van that will be used only for business. Mei-ling is concerned about the impact of the van's cost on her income statement and statement of financial position. She has come to you for advice on calculating the van's depreciation.

**Go to the book's companion website, www.wiley.com/college/weygandt**, **to see the completion of this problem.**

**Broadening Your Perspective**

Financial Reporting and Analysis

**BYP9-1. Financial Reporting Problem: TSMC, Ltd. (TWN)**

The financial statements of TSMC are presented in Appendix A. The notes to the financial statements appear in the 2013 annual report, which can be found in the Investor Relations section of the company's website, *www.tsmc,com*.

***Instructions***

Refer to TSMC's financial statements and answer the following questions.

(a) What was the total cost and book value of property, plant, and equipment at December 31, 2013?

(b) What method or methods of depreciation are used by the company for financial reporting purposes?

(c) What was the amount of depreciation expense for each of the years 2013 and 2012?

(d) Using the statement of cash flows, what is the amount of capital spending in 2013 and 2012?

(e) Where does the company disclose its intangible assets, and what types of intangibles did it have at December 31, 2013?

**BYP9-2. Comparative Analysis Problem: Nestlé SA (CHE) vs. Petra Foods Ltd. (SGP)**

Nestlé's financial statements are presented in Appendix B. Financial statements of Petra Foods are presented in Appendix C.

***Instructions***

(a) Compute the asset turnover ratio for each company for the most recent fiscal year presented.

(b) What conclusions concerning the efficiency of assets can be drawn from these data?

**BYP9-3. Real-World Focus**

***Purpose:*** Use an annual report to identify a company's plant assets and the depreciation method used.

***Address:* www.annualreports.com**, or go to **www.wiley.com/college/weygandt**

***Steps***

1. Select a particular company.

2. Search by company name.

3. Follow instructions below.

***Instructions***

Answer the following questions.

(a) What is the name of the company?

(b) What is the Internet address of the annual report?

(c) At fiscal year-end, what is the net amount of its plant assets?

(d) What is the accumulated depreciation?

(e) Which method of depreciation does the company use?

Critical Thinking

**BYP9-4. Decision-Making Across the Organization**

Givens Company and Runge Company are two companies that are similar in many respects. One difference is that Givens Company uses the straight-line method and Runge Company uses the declining-balance method at double the straight-line rate. On January 2, 2015, both companies acquired the depreciable assets shown below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Asset** |  | **Cost** |  | **Residual Value** |  | **Useful Life** |
| Buildings |  | £320,000 |  | £20,000 |  | 40 years |
| Equipment |  | 125,000 |  | 10,000 |  | 10 years |

Including the appropriate depreciation charges, annual net income for the companies in the years 2015, 2016, and 2017 and total income for the 3 years were as follows.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2015** |  | **2016** |  | **2017** |  | **Total** |
| Givens Company | £84,000 |  | £88,400 |  | £90,000 |  | £262,400 |
| Runge Company | 68,000 |  | 76,000 |  | 85,000 |  | 229,000 |

At December 31, 2017, the statements of financial position of the two companies are similar except that Runge Company has more cash than Givens Company.

Linda Yanik is interested in buying one of the companies. She comes to you for advice.

***Instructions***

With the class divided into groups, answer the following.

(a) Determine the annual and total depreciation recorded by each company during the 3 years.

(b) Assuming that Runge Company also uses the straight-line method of depreciation instead of the declining-balance method as in (a), prepare comparative income data for the 3 years.

(c) Which company should Linda Yanik buy? Why?

**BYP9-5. Communication Activity**

The following was published with the financial statements to American Exploration Company (USA).

|  |
| --- |
| **American Exploration Company**  Notes to the Financial Statements |
| **Property, Plant, and Equipment**—The Company accounts for its oil and gas exploration and production activities using the successful efforts method of accounting. Under this method, acquisition costs for proved and unproved properties are capitalized when incurred. … The costs of drilling exploratory wells are capitalized pending determination of whether each well has discovered proved reserves. If proved reserves are not discovered, such drilling costs are charged to expense. … Depletion of the cost of producing oil and gas properties is computed on the units-of-activity method. |

***Instructions***

Write a brief memo to your instructor discussing American Exploration Company's note regarding property, plant, and equipment. Your memo should address what is meant by the “successful efforts method” and “units-of-activity method.”

**BYP9-6. Ethics Case**

Dieker Container AG is suffering declining sales of its principal product, non-biodegradeable plastic cartons. The president, Edward Mohling, instructs his controller, Betty Fetters, to lengthen asset lives to reduce depreciation expense. A processing line of automated plastic extruding equipment, purchased for €3.1 million in January 2017, was originally estimated to have a useful life of 8 years and a residual value of €300,000. Depreciation has been recorded for 2 years on that basis. Edward wants the estimated life changed to 12 years total, and the straight-line method continued. Betty is hesitant to make the change, believing it is unethical to increase net income in this manner. Edward says, “Hey, the life is only an estimate, and I've heard that our competition uses a 12-year life on their production equipment.”

***Instructions***

(a) Who are the stakeholders in this situation?

(b) Is the change in asset life unethical, or is it simply a good business practice by an astute president?

(c) What is the effect of Edward Mohling's proposed change on income before taxes in the year of change?

A LOOK at U.S. GAAP

GAAP follows most of the same principles as IFRS in the accounting for property, plant, and equipment. There are, however, some significant differences in the implementation: IFRS allows the use of revaluation of property, plant, and equipment, and it also requires the use of component depreciation. In addition, there are some significant differences in the accounting for both intangible assets and impairments.

**Key Points**

* Under both GAAP and IFRS, changes in the depreciation method used and changes in useful life are handled in current and future periods. Prior periods are not affected. GAAP recently conformed to IFRS in the accounting for changes in depreciation methods.
* The accounting for plant asset disposals is essentially the same under GAAP and IFRS.
* Initial costs to acquire natural resources are essentially the same under GAAP and IFRS.
* The definition of intangible assets is essentially the same under GAAP and IFRS.
* The accounting for exchanges of non-monetary assets has converged between IFRS and GAAP. GAAP now requires that gains on exchanges of non-monetary assets be recognized if the exchange has commercial substance. This is the same framework used in IFRS.
* Both IFRS and GAAP follow the historical cost principle when accounting for property, plant, and equipment at date of acquisition. Cost consists of all expenditures necessary to acquire the asset and make it ready for its intended use.
* Under both GAAP and IFRS, interest costs incurred during construction are capitalized. Recently, IFRS converged to GAAP requirements in this area.

**Similarities**

* + The definition for plant assets for both GAAP and IFRS is essentially the same.
  + GAAP, like IFRS, capitalizes all direct costs in self-constructed assets such as raw materials and labor. IFRS does not address the capitalization of fixed overhead although in practice these costs are generally capitalized.
  + GAAP also views depreciation as an allocation of cost over an asset's useful life. GAAP permits the same depreciation methods (e.g., straight-line, accelerated, and units-of-activity) as IFRS.
  + The accounting for subsequent expenditures, such as ordinary repairs and additions, are essentially the same under GAAP and IFRS.

**Differences**

* + Under GAAP, an item of property, plant, and equipment with multiple parts is generally depreciated over the useful life of the total asset. Thus, component depreciation is generally not used. However, GAAP permits companies to use component depreciation.
  + GAAP uses the term *salvage value*, rather than residual value, to refer to an owner's estimate of an asset's value at the end of its useful life for that owner.
  + IFRS allows companies to revalue and sell plant assets to fair value at the reporting date.
  + As in IFRS, under GAAP the costs associated with research and development are segregated into the two components. Costs in the research phase are always expensed under both GAAP and IFRS. Under IFRS, however, costs in the development phase are capitalized as Development Costs once technological feasibility is achieved. Under GAAP, all development costs are expensed as incurred.
  + IFRS permits revaluation of intangible assets (except for goodwill). GAAP prohibits revaluation of intangible assets.
  + IFRS requires an impairment test at each reporting date for plant assets and intangibles and records an impairment if the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of the asset's fair value less costs to sell or its value-in-use. Value-in-use is the future cash flows to be derived from the particular asset, discounted to present value. Under GAAP, impairment loss is measured as the excess of the carrying amount over the asset's fair value.
  + IFRS allows reversal of impairment losses when there has been a change in economic conditions or in the expected use of the asset. Under GAAP, impairment losses cannot be reversed for assets to be held and used; the impairment loss results in a new cost basis for the asset. IFRS and GAAP are similar in the accounting for impairments of assets held for disposal.

**Looking to the Future**

With respect to revaluations, as part of the conceptual framework project, the Boards will examine the measurement bases used in accounting. It is too early to say whether a converged conceptual framework will recommend fair value measurement (and revaluation accounting) for plant assets and intangibles. However, this is likely to be one of the more contentious issues, given the long-standing use of historical cost as a measurement basis in GAAP.

The IASB and FASB have identified a project that would consider expanded recognition of internally generated intangible assets. IFRS permits more recognition of intangibles compared to GAAP. Thus, it will be challenging to develop converged standards for intangible assets, given the long-standing prohibition on capitalizing internally generated intangible assets and research and development costs in GAAP.

**GAAP Practice**

**GAAP Self-Test Questions**

**1.** Which of the following statements is **correct**?

(a) Both IFRS and GAAP permit revaluation of property, plant, and equipment and intangible assets (except for goodwill).

(b) IFRS permits revaluation of property, plant, and equipment and intangible assets (except for goodwill).

(c) Both IFRS and GAAP permit revaluation of property, plant, and equipment but not intangible assets.

(d) GAAP permits revaluation of property, plant, and equipment but not intangible assets.

**Answer**

(b) IFRS permits revaluation of property, plant, and equipment and intangible assets (except for goodwill).

**2.** Rando Company has land that cost $450,000 but now has a fair value of $600,000. Rando Company follows GAAP to account for the land. Which of the following statements is **correct**?

(a) Rando Company must continue to report the land at $450,000.

(b) Rando Company would report a net income increase of $150,000 due to an increase in the value of the land.

(c) Rando Company would report the land at $600,000.

(d) Rando Company would credit Retained Earnings by $150,000.

**Answer**

(a) Rando Company must continue to report the land at $450,000.

**3.** Francisco Corporation is constructing a new building at a total initial cost of $10,000,000. The building is expected to have a useful live of 50 years with no salvage value. The building's finished surfaces (e.g., roof cover and floor cover) are 5% of this cost and have a useful life of 20 years. Building services systems (e.g., electric, heating, and plumbing) are 20% of the cost and have a useful life of 25 years. The depreciation in the first year using GAAP (without component depreciation), assuming straight-line depreciation with no salvage value, is:

(a) $200,000.

(b) $215,000.

(c) $255,000.

(d) None of the above.

**Answer**

(a) $200,000.

**4.** Research and development costs are:

(a) expensed under GAAP.

(b) expensed under IFRS.

(c) expensed under both GAAP and IFRS.

(d) None of the above.

**Answer**

(a) expensed under GAAP.

**5.** Value-in-use is defined as:

(a) net realizable value.

(b) fair value.

(c) future cash flows discounted to present value.

(d) total future undiscounted cash flows.

**Answer**

(c) future cash flows discounted to present value.

**GAAP Exercises**

**GAAP9-1.** Is component depreciation required under IFRS and GAAP? Explain.

**GAAP9-2.** What is revaluation of plant assets? Should revaluation be applied under GAAP?

**GAAP9-3.** Some product development expenditures are recorded as development expenses and others as development costs. Explain the difference between these accounts and how development costs are reported under GAAP.

**GAAP9-4.** Mandall Company constructed a warehouse for $280,000. Mandall estimates that the warehouse has a useful life of 20 years and no residual value. Construction records indicate that $40,000 of the cost of the warehouse relates to its heating, ventilation, and air conditioning (HVAC) system, which has an estimated useful life of only 10 years. Compute the first year of depreciation expense using straight-line component depreciation using IFRS. How might GAAP differ from IFRS?

**GAAP9-5.** Newell Industries spent $300,000 on research and $600,000 on development of a new product. Of the $600,000 in development costs, $400,000 was incurred prior to technological feasibility and $200,000 after technological feasibility had been demonstrated. (a) Prepare the journal entry to record research and development costs under IFRS. (b) Prepare the journal entry to record research and development costs under GAAP.

**GAAP Financial Reporting Problem: Apple Inc.**

**GAAP9-6.** The financial statements of Apple are presented in Appendix D.

**Instructions**

Use the company's financial statements and notes to the financial statements, available at *http://investor.apple.com*, to answer the following questions.

(a) What were the total cost and book value of property, plant, and equipment at September 28, 2013?

(b) What method or methods of depreciation are used by Apple Roll for financial reporting purposes?

(c) What was the amount of depreciation and amortization expense for each of the 3 years 2011-2013? (*Hint*: Use the statement of cash flows.)

(d) Using the statement of cash flows, what are the amounts of property, plant, and equipment purchased (capital expenditures) in 2013 and 2012?

(e) Explain how Apple accounted for its intangible assets in 2013.