

FAR-4

Pensions & Postemployment Benefits

Stockholders' Equity

Partnerships

Pensions & Postemployment Benefits

An agreement between an employer and employee to give the employee benefits once they retire (**ASC 715**).

○ Two types of plans:

- **Defined Contribution** – defined contribution plan (ex. 401K) or when the employer sets aside specific amounts during the time of service, and the retired employee receives whatever sum these contributions and earnings produce.

| | | | |
|---|-----------------|------|------|
| { | Pension Expense | 5000 | |
| | Cash | | 5000 |

- **Defined Benefit** - The employer guarantees certain benefits to be paid to retired employees, and is responsible for setting aside sufficient amounts to fulfill these promises

Accounting for a **defined contribution plan** is straightforward. The company accrues the required contributions at the time services are rendered by employees, and reports pension expense. Contributions are normally required by law to be paid before the due date of the tax return in order for the contribution to be deductible on the return, so companies fund liabilities quickly.

For example, assume the client is offering a 15% defined contribution pension plan to its employees, and salaries and wages for 20X1 total \$1,000. The entry to recognize pension expense is:

12/31/X1

| | | |
|----------------------|-----|-----|
| Pension expense | 150 | |
| Accrued pension cost | | 150 |

The liability must be paid by the due date of the return, which is normally 2 1/2 months following the close of the fiscal year. Assuming it is paid at that time, the entry is:

3/15/X2

| | | |
|----------------------|-----|-----|
| Accrued pension cost | 150 | |
| Cash | | 150 |

These two types of entries are the only ones needed for a defined contribution plan. The company is not involved in the administration of pension assets after they are contributed to the plan.

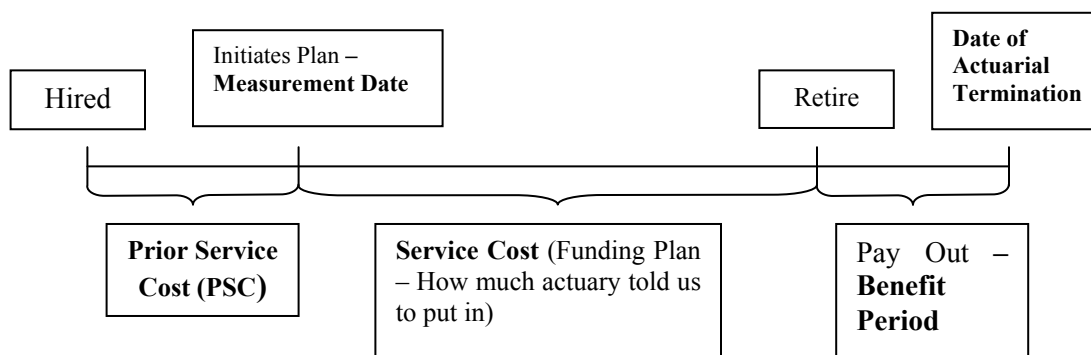
Accounting for a **defined benefit pension plan** is much more complicated, because of two special problems:

- **Matching** – pension expense must be recognized at the time of employee service, not when benefits are paid to retired employees.
- **Estimation** – costs are difficult to determine, since they depend on the lifespan of the employees, changes in wage rates, and the rates of return earned on pension investments.

To compute pension expense, the services of an **actuary** will be required. The actuary will, among other responsibilities, compute the pension obligation three different ways. Each computation is of the amount the company would need to have set aside in a plan today to be able to pay benefits to employees for service to date. This may also be described as the present value of future benefits to be paid. The differences in computation result from **assumptions** about future employment:

- **Vested benefit obligation (VBO)** – what is owed if an employee is terminated immediately. The actuarial present value of vested benefits (if **quit**).
- **Accumulated benefit obligation (ABO)** – what is owed for service to date if the employee continues in employment until normal retirement age at *current wage rates*. The actuarial present value of benefits attributed by the pension benefit formula to employee services rendered before a specified date and based on employee services and compensation *prior to that date* (salaries **received to date**) (**Reliability**).
- **Projected benefit obligation (PBO)** – What is owed for service to date if the employee continues in employment until normal retirement age and receives periodic adjustments to pay for increased experience and general inflation based on *future wage rates*. The present value of the obligation is determined under the **benefits-years-of-service method**. So the PBO is the actuarial present value as of a date of all benefits attributed by the pension benefit formula to employee service rendered prior to that date. The PBO is measured using assumptions as to future compensation levels if the pension benefit formula is based on those future compensation levels (salaries **to be received**) (**Relevance**).

The most useful of the three computations to the accountant determining pension expense is PBO, since this represents the most realistic estimate of pension costs of a going concern



- Based on **Assumptions made by an Actuary**
 - Salary
 - Life expectancies
 - Interest rates
 - Years employed
 - Costs of administering the plan
 - Turnover rates

To compute, **pension expense (Pension Cost)**, seven different amounts may need to be determined:

Pension Expense (Pension Cost) (A-SPIDER)

+ Service Cost

- Increase in PBO for 1 year

+/- Prior Service Cost Amortization

- Cost associated with service years before plan was implemented.
- Calculation = Beginning PSC / Average Service Life *or* expected future years-of-service amortization method.

+ Interest Cost

- Change in PBO resulting from passage of time.
- Calculation = Beginning PBO x Discount Rate (Settlement Rate).

-(Actual Return on PLAN Assets)

- Actual earnings of pension plan during the period.
 - Calculation = Ending PA – Beginning PA – Contribution Made + Benefits Paid (or)
 - Beg FV of Plan Assets x Actual Return

+ Deferred Gain (unrecognized pension gain/ - loss)

- When Actual Investment results differ from long-run Expected returns.
- Calculation = Return on PA – Beginning PA x Expected Rate of Return

- (Excess amortization of deferred gain/ +loss)

- Amortization if deferrals get too large.
 - Minimum amortization calculation:
 - Deferred gain or loss at beginning of year.
 - Minus 10% of Plan Assets or beg PBO, whichever is higher.
 - Excess / Average Service Life

+/- Amortization of Existing Net Obligation or Net Asset at implementation

= Pension Expense/Cost

The first items are based on the projected benefit obligation, and the last items are based on the pension plan assets that have been set aside by the company.

+ Service cost is the increase in PBO that results from employee service in the current period. The complex actuarial computations used to determine service cost are beyond the scope of the CPA exam, but service cost is the primary component of pension expense each year, since it matches the pension cost to each period of service by the employee. It represents the amount that would need to be set aside by the company each year over the service life of an employee to fund promised benefits after retirement (**increase in PBO for 1 year**).

+/- Prior service cost is the PBO that results from establishing (or modifying) a plan that gives employees credit for work performed **before** the date the plan was adopted. Since most defined benefit plans give employees credit for all years of service since the original date of hire, the prior service cost on the date a plan is established is often enormous. This cost should be amortized systematically over the average service time of the employees in order to conform to the matching principle. On the exam, the straight-line method is normally used, so prior service cost amortization equals the prior service cost at the beginning of the year divided by the **average service life** of the employees (**Beg PSC / Avg Svc Life**).

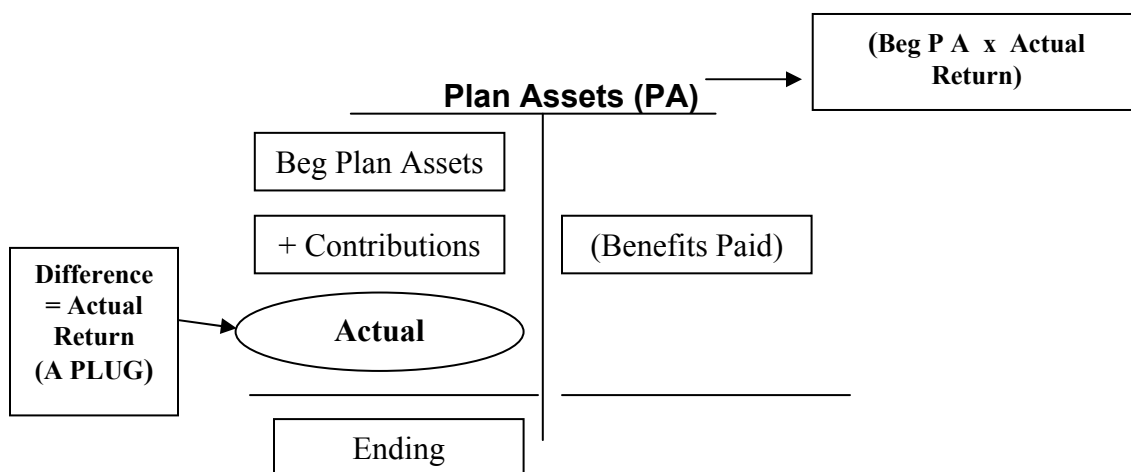
- If the “*expected future years of service method*” is used to amortize PSC

$$\frac{\text{Prior Service Cost (\$800,000)}}{\text{Total number of employee service years (4,000)}} \times \frac{\text{current year service years provided (300)}}{\text{}} = \text{PSC amortization for current year (\$60,000)}$$

+ Interest cost is the increase in PBO that results from the passage of time. Since PBO is a present value computation, it includes an interest rate assumption (discount rate) for promised future benefits. As time passes, the company gets closer to the date benefits must be paid, so the present value grows. On the exam, interest cost is equal to the PBO at the beginning of the year multiplied by the discount rate (**Settlement rate** – rate at which the plan’s obligations could be settled) (**Beg PBO x Disc Rate**).

- (Actual Return on plan assets) refers to the earnings of the investments in the pension plan. This represents the change in the value of the pension assets over the course of the year after adjusting for contributions and withdrawals. The value used is the market-related value of plan assets (securities/real estate), not the historical cost of the securities. Keep in mind that the actual return is subtracted from pension expense, not added to it, since it represents earnings of the plan that reduce the amount the company will have to fund. The actual return equals the market-related value of plan assets at the end of the year minus the value at the beginning of the year minus contributions made to the plan plus withdrawals made from the plan (End PA – Beg PA – Contributions + Withdrawals).

- **2 ways to calculate Actual Return on Plan Assets**



+ Deferred gain (- loss) Unrecognized pension gain is the portion of pension investment income that is believed to be the result of short-term variations from the long-run expected return on investments. The expected return is the market-related value of plan assets at the beginning of the year multiplied by the expected long-run rate of return on investments (Beg PA x Expected

Rate). To avoid having pension expense vary widely from year to year due to fluctuations in the stock market, the company normally defers the excess of the actual return on plan assets over the expected return in years the plan earns above-average returns, and defers the excess of the expected return over actual return in years the plan earns below-average returns. The deferral of gains increases pension expense (postponing a gain until the future is the opposite of recognizing it) and the deferral of losses reduces pension expense. The deferred gain (loss) equals the excess of the actual return over the expected return (**Actual Return – Beg PA x Expected Rate**).

- Excess Amortization of Deferred prior pension gain (loss amortization) is needed when the deferred gains or losses get too large. It is possible for an actuary to estimate a long-run return on investments incorrectly. If the actuary estimates too low a rate, there is a good chance that actual returns will exceed expected returns in so many years that deferred gains are unlikely to be offset by sufficient deferred losses. To limit this danger, the accountant must amortize deferred amounts when the net deferral exceeds 10% of the higher of beginning PBO or beginning Plan Assets (PA). Amortizing a gain reduces pension expense and amortizing a loss increases it. Amortization must be over a period of time not exceeding the average service life of the employees, and this minimum amortization is virtually always used for exam questions. The Minimum amortization is the excess of unrecognized gains and losses as of the *beginning* of the year over 10% of PBO or PA at the beginning of the year divided by the average service life (**[Beg Deferred Amt – 10% (Higher of Beg PBO or Beg PA)] / Avg Svc Life**). This is often referred to as the *“corridor approach”*.

+/-Amortization of Existing Net Obligation or Net Asset at implementation

When the company first adopted FASB 87 after 1986, there may have been a transition adjustment for the difference between the PBO and the Fair Value of Plan assets.

- If the **PBO > F.V.** of plan assets, then the amortization of the *net obligation* will **increase** pension expense/cost.
- If **F.V > PBO**, then the *Net Asset* amortization will **decrease** pension expense/cost.
 - This amount should be amortized over the larger of **15 years** or the **average remaining service life**.

= Pension Expense (Pension Cost) (A-SPIDER)

Presentation:

To Fund the Plan

| | | | |
|--|-----------------------------|------|--|
| | Pension Expense | 3500 | |
| | Prepaid Pension Cost | 500 | |
| | Cash (overfunding) | 4000 | |
| | Accrued Pension Cost | XXX | |

Funding of pension plans does not necessarily occur at the same time as pension expense is recorded. If expensing exceeds funding, an accrued pension cost liability account is created. If funding exceeds expensing, a prepaid pension cost asset account is created. Plans where the fund is under the control of the employer are considered unfunded.

For example, if pension expense of \$90 is computed in the first year of a plan, and the client contributes only \$50 to the pension plan, the following entry is made:

| | | |
|---------------------------------------|----|----|
| Pension expense/cost | 90 | |
| Accrued pension cost (balance) | | 40 |
| Cash | | 50 |

If the client instead contributes \$100, the entry is:

| | | |
|---------------------------------------|----|-----|
| Pension expense/cost | 90 | |
| Prepaid pension cost (balance) | 10 | |
| Cash | | 100 |

SFAS 158 (ASC 715) amended SFAS 87 and requires reporting the funded status of a pension plan on the balance sheet. SFAS 158 requires that both overfunded and underfunded plans must be reported on the balance sheet as either assets or liabilities. FASB 158 eliminated the concept of *minimum pension liability* and *deferred pension cost*.

The funded status is the difference between the **ending projected benefit obligation and the ending fair value of the plan assets** at the measurement date (fiscal year end). If the plan is overfunded, a *noncurrent asset* is recorded on the balance sheet. If the plan is underfunded, either a *current liability*, a *noncurrent liability*, or both are reported on the balance sheet. In other words, the funding status of plans may NOT be netted (overfunded plans may not be netted with underfunded plans). The measurement date for a defined benefit plan is as of the date of the employer’s fiscal year-end statement of financial position.

Any gains and losses not already recognized as pension expense are recognized in **Accumulated other comprehensive income** (net of tax). SFAS 158 (ASC 715) also requires that if a plan is amended and either increases or decreases the projected benefit obligation, this amount should be recognized as either a prior service cost or credit. Prior service costs or credits should be amortized over the future periods of service of the employees expected to receive benefits.

Ex: PBO 800, FV plan assets 600, accrued pension cost 50 (target 200-50=150), tax rate 30%,

| | | |
|---|--|-----------------|
| { | Excess adjustment of PBO and FV of Plan assets at year end | |
| | (Other Comprehensive Income - OCI) | 105 (150 x 70%) |
| | Deferred Tax asset | 45 (150 x 30%) |
| | Accrued Pension Cost (Liability for Pension Benefits) | 150 |

To account for the change in the Projected Benefit Obligation (PBO):

| |
|---|
| Beginning of year PBO |
| + Service cost |
| + Interest cost |
| ± Prior service cost or credit (from changes to plan in current year in full) |
| ± Actuarial gain or loss (from changes in actuarial assumptions) |
| <u>– Benefits paid</u> |
| End of year PBO |

- Notice that amortization of PSC, gains/losses and transition amounts don’t affect the PBO in the current year, however they do affect pension expense/cost for the year.

- **Disclosures (SFAS 132R and SFAS 158):**
 - A reconciliation of the Pension benefit obligation (*PBO*) showing the components separately (**A SPIDER**).
 - A reconciliation of the *fair value of plan assets* with the components shown separately.
 - The *funded status* of the plan and the amounts recognized and not recognized in the balance sheet.
 - For defined benefit plans, the accumulated benefit obligation.
 - The benefits expected to be paid in each of the next five years and in the aggregate for the five years thereafter.
 - The net periodic benefit cost recognized with the components.
 - On a weighted-average basis, *rates and assumptions used* for the assumed discount rate, rate of compensation increase and expected long-term rate of return on plan assets.
 - An explanation of any significant changes in the plan assets or the benefit obligation.
 - A detailed description of the plan including employee groups covered.
 - The net gain or loss and net prior service cost or credit recognized in other comprehensive income (OCI) for the period, and any reclassification adjustments of OCI (amortization of items) that are recognized in pension cost.
 - The amounts in accumulated OCI that have not yet been recognized as pension costs, showing separately the net gain or loss, the net prior service cost or credit, and net transition asset or obligation
 - The amounts in accumulated OCI expected to be recognized as components of pension cost over the fiscal year-end that follows the most recent balance sheet presented, showing separately net gain or loss, net prior service cost or credit, and net transition asset or obligation
 - The amount and timing of any plan assets expected to be returned to the employer during the next 12-month period (or operating cycle, if longer) after the most recent balance sheet.

Post-Retirement Benefits other than Pensions

Some companies provide employees with other postretirement benefits that are not in the form of cash payments. Common examples are:

- Health care benefits
- Life insurance coverage
- Legal services
- Day care
- Tuition assistance
- Housing subsidies

Post Retirement Benefit Expense

+Current service cost

+Interest cost on APBO

-(Actual Return on Plan Assets)

+Amortization of PSC

-(Gain amortization for changes in APBO)

+Amortize expense transition amount (net obligation) (longer of 20 years or average service life)

Net postretirement benefit expense/cost

CLASS QUESTIONS

1. The following information pertains to Kane Co's defined benefit pension plan:

| | |
|---|----------|
| Accrued pension cost, January 1, 20x4 | \$ 2,000 |
| Service cost | 19,000 |
| Interest cost | 38,000 |
| Expected and actual return on plan assets | 22,000 |
| Amortization of unrecognized prior service cost | 52,000 |
| Employer contributions | 40,000 |

The ending fair value of plan assets is \$750,000 and the ending projected benefit obligation is \$850,000. Ignoring income taxes, in its December 31, 20x4 balance sheet, what is the required adjustment to accrued pension cost (Liability)?

- a. \$45,000
- b. \$49,000
- c. \$51,000
- d. \$87,000

2. Payne, Inc. implemented a defined-benefit pension plan for its employees on January 2, 20x3. The following data are provided for 20x3, as of December 31, 20x3:

| | |
|------------------------------|-----------|
| Projected benefit obligation | \$103,000 |
| Plan assets at fair value | 78,000 |
| Net periodic pension cost | 90,000 |
| Employer's contribution | 70,000 |
| Unfunded prior service cost | 4,000 |

What amount should Payne report in accumulated other comprehensive income for the year ended December 31, 20x3?

- a) \$0
- b) \$1,000
- c) \$5,000
- d) \$25,000

3. Visor Co. maintains a defined benefit pension plan for its employees. The service cost component of Visor's net periodic pension cost is measured using the

- a. Accumulated benefit obligation.
- b. Vested benefit obligation.
- c. Projected benefit obligation.
- d. Expected return on plan assets.

4. Interest cost included in the net pension cost recognized by an employer sponsoring a defined benefit pension plan represents the

- a. Amortization of the discount on unrecognized prior service costs.
- b. Increase in the fair value of plan assets due to the passage of time.
- c. Increase in the projected benefit obligation due to the passage of time.
- d. Shortage between the expected and actual returns on plan assets.

5. The following information pertains to Seda Co.'s pension plan:

| | |
|--|----------|
| Actuarial estimate of projected benefit obligation at 1/1/X5 | \$72,000 |
| Assumed discount rate (settlement rate) | 10% |
| Service costs for 20X5 | 18,000 |
| Pension benefits paid during 20X5 | 15,000 |

If **no** change in actuarial estimates occurred during 20X5, Seda's projected benefit obligation at December 31, 20X5 was

- a. \$64,200
- b. \$75,000
- c. \$79,200
- d. \$82,200

6. Which of the following disclosures is not required of companies with a defined benefit pension plan?

- a. A description of the plan.
- b. The amount of pension expense by component.
- c. The weighted-average discount rate.
- d. The estimates of future contributions for the next five years.

7. According to SFAS 158 (ASC 715), an employer sponsoring a defined benefit pension plan must report a liability on the balance sheet equal to

- a. The current year pension cost that was not funded.
- b. The difference between the fair value of plan assets less the accumulated benefit obligation.
- c. The difference between the accumulated benefit obligation and the projected benefit obligation.
- d. The difference between the fair value of plan assets less the projected benefit obligation.

8. Claire, a publicly traded company, has the following defined benefit pension plans with the following information as of December 31, 20X6:

| | <u>Plan A</u> | <u>Plan B</u> | <u>Plan C</u> |
|--------------------------------|---------------|---------------|---------------|
| Projected benefit obligation | 100,000 | 150,000 | 180,000 |
| Accumulated benefit obligation | 80,000 | 140,000 | 150,000 |
| Fair value of plan assets | 110,000 | 125,000 | 160,000 |

Assume Claire will make no payments within the next 24 months to any pension plan. How should Claire report the pension plans on the December 31, 20X6 balance sheet?

- a. A noncurrent liability of \$35,000.
- b. A noncurrent asset of \$10,000 and a noncurrent liability of \$45,000.
- c. A noncurrent liability of \$25,000.
- d. A noncurrent asset of \$30,000 and a noncurrent liability of \$25,000.

9. Tulip Corporation, a publicly traded company, implemented a defined benefit pension plan for its employees on January 2, 20X4. The following data are provided for 20X6 and as of December 31, 20X6:

| | |
|--------------------------------|-----------|
| Projected benefit obligation | \$600,000 |
| Accumulated benefit obligation | 550,000 |
| Plan assets at fair value | 420,000 |
| Pension cost for 20X6 | 180,000 |
| Pension contribution for 20X6 | 150,000 |

Assume that as of January 1, 20X6, Tulip's pension plan was fully funded, and there were no recorded pension assets or liabilities on the balance sheet. Assuming a tax rate of 40%, what is the net effect of the required adjustment on accumulated other comprehensive income on December 31, 20X6?

- a. \$90,000 decrease.
- b. \$108,000 decrease.
- c. \$36,000 decrease.
- d. \$0

10. Under the requirements of SFAS 158 (ASC 715), a company with a defined benefit pension plan must disclose in the notes to its financial statements

- a. A reconciliation of the vested and nonvested benefit obligation of its pension plan with the accumulated benefit obligation.
- b. A reconciliation of the accrued or prepaid pension cost reported in its balance sheet with the pension expense reported in its income statement.
- c. A reconciliation of the accumulated benefit obligation of its pension plan with its projected benefit obligation.
- d. The funded status of its pension plan and the amounts recognized in the balance sheet showing separately the noncurrent assets, current liabilities, and noncurrent liabilities reported.

11. Which of the following methods is used in IFRS to account for defined benefit pension plans?

- a. Projected-unit-credit method.
- b. Benefit-years-of-service method.
- c. Accumulated benefits method.
- d. Vested years of service method.

SOLUTIONS

1. (c) Pension expense in 20x4 will consist of service cost of \$19,000 + interest of \$38,000 - return on plan assets of \$22,000 + amortization of prior service cost of \$52,000 for a net amount of \$87,000. The amount funded was \$40,000 leaving \$47,000 as unfunded. Since there was an accrued pension cost at 1/1/X4 of \$2,000, the balance in the accrued pension cost will be \$49,000 at 12/31/X4. We then compare the ending FV of plan assets with the ending PBO. Since the ending PBO \$850,000 > ending FV Plan assets \$750,000, our target Accrued pension cost (liability) is \$100,000. With a new balance of \$49,000 the adjustment is \$51,000.

| | | | |
|---|---|--|--------|
| { | Pension expense 87,000 | | |
| | Cash | 40,000 | |
| | Accrued pension cost | 47,000 | |
| | | | |
| | <u>Accrued pension cost (liability)</u> | | |
| | | 2,000 (beg bal) | |
| | | <u>47,000 (increase due to underfunding)</u> | |
| | | 49,000 | |
| | | <u>51,000 *</u> | |
| | | 100,000 | |
| | | | |
| { | Excess adjustment of PBO and FV | | |
| | of Plan assets at year end (OCI) | 51,000 | |
| | Accrued Pension Cost (Liability) | | 51,000 |

2. (c) With an projected benefit obligation of \$103,000 and plan assets of \$78,000, Payne must report a minimum pension liability of \$25,000. Payne contributed only \$70,000 to the plan based on pension cost of \$90,000 indicating that there is already an accrued pension liability of \$20,000. In order to achieve an accrued pension liability of \$25,000, Payne will need to accrue an additional liability of \$5,000.

| | | | |
|---|----------------------------------|-------|-------|
| { | Excess adjustment of PBO and FV | | |
| | of Plan assets at year end (OCI) | 5,000 | |
| | Accrued Pension Cost (Liability) | | 5,000 |

3. (c) The requirement is to determine how the service cost component of the net periodic pension cost is measured in a defined benefit pension plan. Per SFAS 87 the service cost component recognized shall be determined as “the actuarial present value of benefits attributed by the pension benefit formula to employee service during the period” that is known as the **projected benefit obligation**.

4. (c) Net pension cost (expense) is comprised of six elements. One of these elements is interest on the projected benefit obligation, which is defined as the increase in the amount of the projected benefit obligation due to the passage of time. Candidates must be careful so as not to confuse “interest cost” with the “actual return” component of net pension cost which is the earnings on the plan assets. If the latter component is positive, it reduces the net pension cost for the period.

5. (d) The projected benefit obligation is the actuarial present value of the pension obligation at the end of the period. Since there were no changes in actuarial estimates during the year, the end of period projected benefit obligation is computed as follows:

| | |
|---|-----------------|
| Projected benefit obligation, 1/1/X5 | \$72,000 |
| Service cost | 18,000 |
| Interest on projected benefit obligation (10% x \$72,000) | 7,200 |
| Benefit payments | <u>(15,000)</u> |
| Pension benefit obligation, 12/31/X5 | \$82,200 |

Service cost and interest on the projected benefit obligation increase the projected benefit obligation; benefit payments decrease the projected benefit obligation.

6. (d) Estimates of future contributions to a defined benefit pension plan are required to be disclosed only for the next fiscal year. Answer (a) is incorrect because a description of the plan is a required disclosure. Answer (b) is incorrect because the amount of pension expense by component is a required disclosure. Answer (c) is incorrect because the weighted-average discount rate is a required disclosure.

7. (d) According to SFAS 158 (ASC 715), an employer must recognize the overfunded or underfunded status of the pension plan. A liability is reported when the fair value of the plan assets is less than the projected benefit obligation.

8. (b) SFAS 158 (ASC 715) requires the funded status of the plan to be recognized on the balance sheet. The fair value of plan assets is compared with the projected benefit obligation. Overfunded plans are aggregated and recognized as noncurrent assets on the balance sheet. Underfunded plans are aggregated and recognized as current, noncurrent liabilities, or both. Claire must aggregate Plans B and C, because they are both underfunded. Plan B is underfunded by \$25,000 (\$125,000 – \$150,000), and Plan C is underfunded by \$20,000 (\$160,000 – \$180,000). Because Claire expects to make no payments within the next 12 months, the aggregated underfunded plans are recorded as noncurrent liabilities on the balance sheet. The overfunded amount (Plan A: \$110,000 – 100,000) of \$10,000 is recognized as a noncurrent asset on the balance sheet. Answer (a) is incorrect because all plans cannot be aggregated. Answers (c) and (d) are incorrect because according to SFAS 158, the accumulated benefit obligation is no longer used to measure the funding status of the plan.

9. (a) SFAS 158 (ASC 715) requires that the funded status of the plan be recognized in the balance sheet. The funding status is determined by comparing the fair value of plan assets to the projected benefit obligation. The pension plan for Rose is underfunded by a total of \$180,000 (\$420,000 – 600,000). As of December 31, 20X6, Rose has recognized a pension liability of \$30,000, which is the difference between pension cost for the period and the pension contribution for the period. This \$30,000 liability has been recognized as an expense and reduces net income for the period. Because Rose must recognize a \$180,000 liability in the balance sheet, an entry must be recorded for the \$150,000 needed to increase the pension liability account to the underfunded amount of \$180,000. Therefore, the entry to recognize the underfunded portion of the plan would be

| | |
|-----------------------|---------------------|
| OCI (\$150,000 × 60%) | 90,000 (net of tax) |
| Deferred tax asset | 60,000 |
| Pension liability | 150,000 |

Answer (b) is incorrect because it is necessary to adjust for any existing pension or liability that may exist at year-end. Answers (c) and (d) are incorrect because the accumulated benefit obligation is not used to determine the funded status of the plan.

10. (d) SFAS 158 (ASC 715) revised the disclosures required by SFAS 132(R). SFAS 158 requires that the funded status of the pension plans and the amounts be recognized in the balance sheet showing separately the assets, current liabilities, and noncurrent liabilities.

11. (a) The requirement is to identify the method that is used for defined benefit pension plans. Answer (a) is correct because IFRS requires the use of the projected-unit-credit method to calculate the present value of the defined benefit obligation (PV-DBO). Answer (b) is incorrect because the benefit-years-of-service method is used in US GAAP. Answers (c) and (d) are incorrect because these are not methods for reporting pension benefits.

Task-Based Simulation 1

| | | |
|----------------------|--------------------------|------|
| Pension Calculations | Authoritative Literature | Help |
| | | |

Situation

The following information pertains to Sparta Co.'s defined benefit pension plan.

| | |
|-------------------------|----------|
| Discount rate | 8% |
| Expected rate of return | 10% |
| Average service life | 12 years |

At January 1, 20x5:

| | |
|-----------------------------------|-----------|
| Projected benefit obligation | \$600,000 |
| Fair value of pension plan assets | 720,000 |
| Unrecognized prior service cost | 240,000 |
| Unamortized prior pension gain | 96,000 |

At December 31, 20x5:

| | |
|-----------------------------------|---------|
| Fair value of pension plan assets | 825,000 |
|-----------------------------------|---------|

Service cost for 20x5 was \$90,000. There were no contributions made or benefits paid during the year. Sparta's unfunded accrued pension liability was \$8,000 at January 1, 20x5. Sparta uses the straight-line method of amortization over the maximum period permitted.

Calculate the following amounts for Sparta's pension cost for 20x5.

- _____ Interest cost
- _____ Expected return on plan assets
- _____ Actual return on plan assets
- _____ Amortization of prior service costs
- _____ Minimum amortization of unrecognized gain

Task-Based Simulation 2

| | | |
|----------------------|--------------------------|------|
| Pension Calculations | Authoritative Literature | Help |
| | | |

Situation

The following information pertains to Winger Co.'s defined benefit pension plan. The common stock of Winger is publicly traded.

| | |
|-----------------------------------|-----------|
| Discount rate | 6% |
| <i>At January 1, 20x2:</i> | |
| Projected benefit obligation | \$600,000 |
| Fair value of pension plan assets | 420,000 |
| Accumulated benefit obligation | 380,000 |

| | |
|-----------------------------------|---------|
| Unrecognized prior service cost | 240,000 |
| <i>At December 31, 20x2:</i> | |
| Projected benefit obligation | ? |
| Fair value of pension plan assets | 470,200 |

Service cost for 20x2 was \$80,000. The actual and expected return on assets was 6%. A contribution for pension of \$40,000 was made during the year, and \$15,000 of benefits were paid. Winger had no prepaid pension or accrued pension liability at December 31, 20x1. Winger amortizes the unrecognized service costs at \$20,000 per year. Assume no pension benefits are expected to be paid in the next 12 months.

Part I.

Calculate the following amounts for Winger's pension cost for 20x2.

- _____ Interest cost
- _____ Actual return on plan assets
- _____ Amortization of prior service costs or credits
- _____ Gain or (Loss)
- _____ Pension cost for 20x2
- _____ Projected benefit obligation at December 31, 20x2

Part II.

For the following items determine whether the component Increases or Decreases Winger's unfunded accrued pension liability.

| | <u>Increase</u> | <u>Decrease</u> | <u>No effect</u> |
|---|-----------------------|-----------------------|-----------------------|
| 1. Service cost | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Interest cost | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Actual return on plan assets | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. Amortization of prior service costs or credits | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. Gain or loss in 20x2 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Task-Based Simulation 3

| | | |
|-----------------|---------------------------------|-------------|
| Concepts | Authoritative Literature | Help |
|-----------------|---------------------------------|-------------|

Identify whether each of the following statements is True or False.

| | <u>True</u> | <u>False</u> |
|--|-----------------------|-----------------------|
| 1. A defined contribution plan is a plan where an employer agrees to provide a benefit at retirement defined by a formula. | <input type="radio"/> | <input type="radio"/> |
| 2. The present value of the projected benefit obligation is calculated using the benefits years of service method. | <input type="radio"/> | <input type="radio"/> |
| 3. Pension liability is calculated by comparing the accumulated benefit obligation with the fair value of plan assets. | <input type="radio"/> | <input type="radio"/> |
| 4. A company is required to net overfunded pension plans with underfunded pension plans and report the net amount as either noncurrent asset or noncurrent liability on the balance sheet. | <input type="radio"/> | <input type="radio"/> |
| 5. Prior service costs are caused by new individuals entering the plan after the vesting date. | <input type="radio"/> | <input type="radio"/> |

- 6. In a defined benefit plan, interest cost represents the increase in the fair value of the plan assets due to the passage of time.
- 7. Companies must disclose in the notes to the financial statements the effect that a two percentage point increase in interest costs would have on the aggregate service and interest costs of the accumulated postretirement benefit obligation on health care benefits.
- 8. The actual return on plan assets is defined as the difference in the fair value of plan assets at the beginning and the end of the year.

Task-Based Simulation 4

| | | |
|-----------------|---------------------------------|-------------|
| Research | Authoritative Literature | Help |
|-----------------|---------------------------------|-------------|

You have been asked to research the professional literature to determine how to account for prior service cost or credits for a single-employee defined benefit pension plan. Place the citation for the excerpt from professional standard that provides this information in the answer box below.

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

Task-Based Simulation Solution 1

| | | |
|----------------------|--------------------------|------|
| Pension Calculations | Authoritative Literature | Help |
| | | |

1. \$ 48,000 Interest cost
2. \$ 72,000 Expected return on plan assets
3. \$105,000 Actual return on plan assets
4. \$ 20,000 Amortization of prior service costs
5. \$ 2,000 Minimum amortization of unrecognized gain

Explanation of solutions

1. **(\$48,000)** The solutions approach is to set up the formula for calculating interest cost

$$\begin{array}{rclcl} \text{Beginning balance of projected benefit obligation (1/1/06)} & & \times & \text{Discount rate} & = & \text{Interest cost} \\ \$600,000 & & \times & .08 & = & \$48,000 \end{array}$$

2. **(\$72,000)** The solutions approach is to set up the formula for calculating the expected return on plan assets

$$\begin{array}{rclcl} \text{Beginning balance of fair value of the plan assets (1/1/06)} & \times & \text{Expected rate of return on plan assets} & = & \text{Expected return on plan assets} \\ \$720,000 & \times & 10\% & = & \$72,000 \end{array}$$

3. **(\$105,000)** The solutions approach is to set up a T-account for the fair value of pension plan assets

| | Fair Value of Pension Plan Assets | | (Pension plan account, but not on Sparta's books) |
|-------------------------------|-----------------------------------|---|---|
| 1/1/06 | 720,000 | | |
| Contributions during the year | 0 | 0 | Pension benefits paid during 2006 |
| Actual return on plan assets | ? | | |
| 12/31/06 | 825,000 | | |

$$\text{Actual return on plan assets} = \$825,000 - \$720,000 + \$0 - \$0 = \$105,000$$

The problem states that there were no contributions made or benefits paid, thus the actual return on plan assets is the only change not accounted for.

4. **(\$20,000)** The solutions approach is to set up the formula for amortization of prior service cost

$$\begin{array}{rclcl} \text{Unrecognized prior service cost (1/1/06)} & \div & \text{Average service life of employees} & = & \text{Amortization of prior service costs} \\ & & \frac{\$240,000}{12} & = & \$20,000 \end{array}$$

5. **(\$2,000)** The solutions approach is to set up the steps needed to calculate the minimum amortization of unrecognized pension gain

- (1) Determine the greater of the
Projected benefit obligation (\$600,000), or
Fair value of the plan assets (\$720,000)
- (2) Multiply the larger amount in #1 by 10%
 $\$720,000 \times 10\% = \$72,000$
- (3) Calculate the difference between the value in #2 and the unamortized prior pension gain
 $\$96,000 - \$72,000 = \$24,000$
- (4) Amortize the value in #3 by dividing it by the average service life of employees

$$\begin{array}{rcl} \frac{\$24,000}{12} & = & \$2,000 \\ \text{Minimum amortization} & = & \$2,000 \end{array}$$

When the amortization of the cumulative unrecognized net gain or loss from previous periods is required, the procedure is comparable to the amortization of prior service cost and, in general, it requires the use of the average remaining service period for active employees. Unlike prior service cost, however, the amount to be amortized is not necessarily the calculated amount of the cumulative unrecognized net gain or loss. Instead, the minimum amount subject to amortization, is determined by the use of a method sometimes referred to as the "corridor" approach. The minimum amount of the cumulative unrecognized gain or loss required to be amortized is determined by computing, at the beginning of the fiscal year, the excess of the cumulative unrecognized gain or loss over 10% of the greater of the projected benefit obligation or the market-related asset value. If the cumulative unrecognized gain or loss is equal to or less than the 10% calculated value, no amount need be amortized.

Task-Based Simulation Solution 2

| | | |
|----------------------|--------------------------|------|
| Pension Calculations | Authoritative Literature | Help |
| | | |

Part I.

1. \$ 36,000 Interest cost (PBO at BOY \$600,000 × 6% = \$36,000)
2. \$ 25,200 Actual return on plan assets (FV of plan assets BOY \$420,000 × 6% = \$25,200)
3. \$ 20,000 Amortization of prior service costs or credits (\$240,000/12 years = \$20,000 per year)
4. \$ 0 Gain or (Loss) (Actual returns = expected returns)
5. \$ 110,800 Pension cost for 2010 (\$80,000 service cost + \$36,000 interest cost – \$25,200 ROA + \$20,000 amortization of prior service cost = \$110,800)
6. \$ 701,000 Projected benefit obligation at December 31, 2010 (PBO at BOY \$600,000 + Service Costs \$80,000 + Interest Cost \$36,000 – Benefits Paid \$15,000 = \$701,000 PBO at EOY)

Part II.

| | <u>Increase</u> | <u>Decrease</u> | <u>No effect</u> |
|---|----------------------------------|----------------------------------|----------------------------------|
| 1. Service cost | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Interest cost | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Actual return on plan assets | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| 4. Amortization of prior service costs or credits | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. Gain or loss in 20x2 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |

Explanation of solutions

1. (I) Service cost increases pension cost for the period.
2. (I) Interest cost increases pension cost for the period.
3. (D) Actual return on assets decreases pension costs for the period.
4. (I) Amortization of prior service cost increases pension cost for the period.
5. (N) Winger had no gain or loss because actual and expected return on assets were the same for 20x2.

Task-Based Simulation Solution 3

| | | |
|----------|--------------------------|------|
| Concepts | Authoritative Literature | Help |
| | | |

| | <u>True</u> | <u>False</u> |
|--|----------------------------------|----------------------------------|
| 1. A defined contribution plan is a plan where an employer agrees to provide a benefit at retirement defined by a formula. | <input type="radio"/> | <input checked="" type="radio"/> |
| 2. The present value of the projected benefit obligation is calculated using the benefits years of service method. | <input checked="" type="radio"/> | <input type="radio"/> |
| 3. Pension liability is calculated by comparing the accumulated benefit obligation with the fair value of plan assets. | <input type="radio"/> | <input checked="" type="radio"/> |
| 4. A company is required to net overfunded pension plans with underfunded pension plans and report the net amount as either noncurrent asset or noncurrent liability on the balance sheet. | <input type="radio"/> | <input checked="" type="radio"/> |
| 5. Prior service costs are caused by new individuals entering the plan after the | <input type="radio"/> | <input checked="" type="radio"/> |

vesting date.

6. In a defined benefit plan, interest cost represents the increase in the fair value of the plan assets due to the passage of time.
7. Companies must disclose in the notes to the financial statements the effects that a two-percentage-point increase in interest costs would have on the aggregate service and interest costs of the accumulated postretirement benefit obligation on health care benefits.
8. The actual return on plan assets is defined as the difference in the fair value of plan assets at the beginning and the end of the year.

Explanation of solutions

1. **(F)** A defined contribution plan is a plan where the employer defines the contribution. No benefit is promised. The benefit is provided by a trust that is funded by the defined contribution of the employer.
2. **(T)** The projected benefit obligation is calculated using the benefits years of service method.
3. **(F)** The funded status of the pension plan is calculated by subtracting the projected benefit obligation and the fair value of plan assets at year-end.
4. **(F)** A company may not net the overfunded and underfunded plans. Overfunded plans must be shown as noncurrent assets on the balance sheet. Underfunded plans should be shown as current liabilities, noncurrent liabilities, or both.
5. **(F)** Prior service costs are caused by amendments to the plan or initiation of a new plan with a retroactive allowance.
6. **(F)** In a defined benefit plan, the interest cost represents the increase in the projected benefit obligation due to the passage of time.
7. **(F)** Companies must disclose the effect that a one percentage point increase would have on the aggregate service and interest costs of the accumulated postretirement benefit obligation on health-care benefits.
8. **(F)** The actual return on plan assets is defined as the difference in the fair value adjusted for contributions made to the plan and benefits paid.

Task-Based Simulation Solution 4

| | | |
|----------|---------------|------|
| Research | Authoritative | Help |
| | Literature | |

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|-----|-----|----|----|----|
| ASC | 715 | 30 | 35 | 11 |
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