

SOCIETY OF ACTUARIES

AMERICAN SOCIETY OF PENSION ACTUARIES

JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES

ENROLLED ACTUARIES PENSION EXAMINATION, SEGMENT L

MAY 2013 EA-2, SEGMENT L, EXAMINATION

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LIMITS AND TABLES
(Included with the 2013 EA-2 (Segment L) examination)

| Compensation Limit IRC section 401(a)(17) | |
|--|--------------|
| <u>Year</u> | <u>Limit</u> |
| 2000-2001 | 170,000 |
| 2002-2003 | 200,000 |
| 2004 | 205,000 |
| 2005 | 210,000 |
| 2006 | 220,000 |
| 2007 | 225,000 |
| 2008 | 230,000 |
| 2009-2011 | 245,000 |
| 2012 | 250,000 |
| 2013 | 255,000 |

| Maximum Benefit Limit IRC section 415(b) | |
|---|----------------------|
| <u>Year</u> | <u>Limit at SSRA</u> |
| 2000 | 135,000 |
| 2001 | 140,000 |
| <u>Year</u> | <u>Limit at 65</u> |
| 2002-2003 | 160,000 |
| 2004 | 165,000 |
| 2005 | 170,000 |
| 2006 | 175,000 |
| 2007 | 180,000 |
| 2008 | 185,000 |
| 2009-2011 | 195,000 |
| 2012 | 200,000 |
| 2013 | 205,000 |

| Nondiscriminatory Classification Test IRC section 410(b) | | |
|---|-------------------|-------------------|
| Nonhighly compensated employee | | |
| concentration | Safe harbor | Unsafe harbor |
| <u>percentage</u> | <u>percentage</u> | <u>percentage</u> |
| 0-60 | 50.00 | 40.00 |
| 61 | 49.25 | 39.25 |
| 62 | 48.50 | 38.50 |
| 63 | 47.75 | 37.75 |
| 64 | 47.00 | 37.00 |
| 65 | 46.25 | 36.25 |
| 66 | 45.50 | 35.50 |
| 67 | 44.75 | 34.75 |
| 68 | 44.00 | 34.00 |
| 69 | 43.25 | 33.25 |
| 70 | 42.50 | 32.50 |
| 71 | 41.75 | 31.75 |
| 72 | 41.00 | 31.00 |
| 73 | 40.25 | 30.25 |
| 74 | 39.50 | 29.50 |
| 75 | 38.75 | 28.75 |
| 76 | 38.00 | 28.00 |
| 77 | 37.25 | 27.25 |
| 78 | 36.50 | 26.50 |
| 79 | 35.75 | 25.75 |
| 80 | 35.00 | 25.00 |
| 81 | 34.25 | 24.25 |
| 82 | 33.50 | 23.50 |
| 83 | 32.75 | 22.75 |
| 84 | 32.00 | 22.00 |
| 85 | 31.25 | 21.25 |
| 86 | 30.50 | 20.50 |
| 87 | 29.75 | 20.00 |
| 88 | 29.00 | 20.00 |
| 89 | 28.25 | 20.00 |
| 90 | 27.50 | 20.00 |
| 91 | 26.75 | 20.00 |
| 92 | 26.00 | 20.00 |
| 93 | 25.25 | 20.00 |
| 94 | 24.50 | 20.00 |
| 95 | 23.75 | 20.00 |
| 96 | 23.00 | 20.00 |
| 97 | 22.25 | 20.00 |
| 98 | 21.50 | 20.00 |
| 99 | 20.75 | 20.00 |

LIMITS AND TABLES
(Included with the 2013 EA-2 (Segment L) examination)

| Permitted Disparity Tables IRC section 401(l) | | | | |
|---|----------------|----------------|----------------|-------------------------|
| Annual factor in maximum excess allowance and maximum offset allowance percent | | | | |
| Age at benefit Commencement | <u>SSRA 65</u> | <u>SSRA 66</u> | <u>SSRA 67</u> | <u>Simplified Table</u> |
| 70 | 1.209 | 1.101 | 1.002 | 1.048 |
| 69 | 1.096 | 0.998 | 0.908 | 0.950 |
| 68 | 0.996 | 0.907 | 0.825 | 0.863 |
| 67 | 0.905 | 0.824 | 0.750 | 0.784 |
| 66 | 0.824 | 0.750 | 0.700 | 0.714 |
| 65 | 0.750 | 0.700 | 0.650 | 0.650 |
| 64 | 0.700 | 0.650 | 0.600 | 0.607 |
| 63 | 0.650 | 0.600 | 0.550 | 0.563 |
| 62 | 0.600 | 0.550 | 0.500 | 0.520 |
| 61 | 0.550 | 0.500 | 0.475 | 0.477 |
| 60 | 0.500 | 0.475 | 0.450 | 0.433 |
| 59 | 0.475 | 0.450 | 0.425 | 0.412 |
| 58 | 0.450 | 0.425 | 0.400 | 0.390 |
| 57 | 0.425 | 0.400 | 0.375 | 0.368 |
| 56 | 0.400 | 0.375 | 0.344 | 0.347 |
| 55 | 0.375 | 0.344 | 0.316 | 0.325 |

| FICA Taxable Wage Base | |
|-------------------------------|--------------|
| <u>Year</u> | <u>Limit</u> |
| 2000 | 76,200 |
| 2001 | 80,400 |
| 2002 | 84,900 |
| 2003 | 87,000 |
| 2004 | 87,900 |
| 2005 | 90,000 |
| 2006 | 94,200 |
| 2007 | 97,500 |
| 2008 | 102,000 |
| 2009-2011 | 106,800 |
| 2012 | 110,100 |
| 2013 | 113,700 |

| Key employee Compensation IRC section 416 | | |
|--|----------------|-----------------|
| <u>Year</u> | <u>Officer</u> | <u>1% owner</u> |
| 2003 | 130,000 | 150,000 |
| 2004 | 130,000 | 150,000 |
| 2005 | 135,000 | 150,000 |
| 2006 | 140,000 | 150,000 |
| 2007 | 145,000 | 150,000 |
| 2008 | 150,000 | 150,000 |
| 2009-2011 | 160,000 | 150,000 |
| 2012-2013 | 165,000 | 150,000 |

| Highly Compensated Employee Compensation IRC section 414(q) | |
|--|--------------|
| <u>Year</u> | <u>Limit</u> |
| 2000-2001 | 85,000 |
| 2002-2004 | 90,000 |
| 2005 | 95,000 |
| 2006 | 100,000 |
| 2007 | 100,000 |
| 2008 | 105,000 |
| 2009-2011 | 110,000 |
| 2012-2013 | 115,000 |

LIMITS AND TABLES (Included with the 2013 EA-2 (Segment L) examination)

| Maximum PBGC Guaranteed Life-Only Annuity at Age 65 | |
|--|------------------------|
| <u>Year</u> | <u>Monthly Benefit</u> |
| 2001 | 3,392.05 |
| 2002 | 3,579.55 |
| 2003 | 3,664.77 |
| 2004 | 3,698.86 |
| 2005 | 3,801.14 |
| 2006 | 3,971.59 |
| 2007 | 4,125.00 |
| 2008 | 4,312.50 |
| 2009-2011 | 4,500.00 |
| 2012 | 4,653.41 |
| 2013 | 4,789.77 |

| PBGC Flat-rate Premium | |
|-------------------------------|----------------|
| <u>Year</u> | <u>Premium</u> |
| 2008 | 33.00 |
| 2009 | 34.00 |
| 2010-2012 | 35.00 |
| 2013 | 42.00 |

**FACTORS USED TO ADJUST MAXIMUM PBGC GUARANTEED BENEFITS
FOR PAYMENTS OTHER THAN AS A SINGLE LIFE ANNUITY AT AGE 65**

| Commencement Age | |
|-------------------------|---------------|
| <u>Age</u> | <u>Factor</u> |
| 75 | 3.04 |
| 74 | 2.76 |
| 73 | 2.48 |
| 72 | 2.21 |
| 71 | 1.93 |
| 70 | 1.66 |
| 69 | 1.49 |
| 68 | 1.34 |
| 67 | 1.21 |
| 66 | 1.10 |
| 65 | 1.00 |
| 64 | 0.93 |
| 63 | 0.86 |
| 62 | 0.79 |
| 61 | 0.72 |
| 60 | 0.65 |
| 59 | 0.61 |
| 58 | 0.57 |
| 57 | 0.53 |
| 56 | 0.49 |
| 55 | 0.45 |
| 54 | 0.43 |
| 53 | 0.41 |
| 52 | 0.39 |
| 51 | 0.37 |
| 50 | 0.35 |
| 49 | 0.33 |
| 48 | 0.31 |
| 47 | 0.29 |
| 46 | 0.27 |
| 45 | 0.25 |

| Form of Payment Certain & Life* | |
|---|---------------|
| <u>Years</u> | <u>Factor</u> |
| 1 | 0.995 |
| 2 | 0.990 |
| 3 | 0.985 |
| 4 | 0.980 |
| 5 | 0.975 |
| 6 | 0.965 |
| 7 | 0.955 |
| 8 | 0.945 |
| 9 | 0.935 |
| 10 | 0.925 |
| *Reduction decreases by 0.01 per year in excess of 10. | |

| Age Difference For J&S and J&C Beneficiary | | |
|---|----------------|--------------|
| <u>Difference</u> | <u>Younger</u> | <u>Older</u> |
| 1 | 0.99 | 1.005 |
| 2 | 0.98 | 1.010 |
| 3 | 0.97 | 1.015 |
| 4 | 0.96 | 1.020 |
| 5 | 0.95 | 1.025 |
| 6 | 0.94 | 1.030 |
| 7 | 0.93 | 1.035 |
| 8 | 0.92 | 1.040 |
| 9 | 0.91 | 1.045 |
| 10 | 0.90 | 1.050 |

| Form of Payment Joint & Contingent (J&C) | | |
|---|---------------|----------------|
| with 10 yr | | |
| <u>Percent</u> | <u>Factor</u> | <u>Certain</u> |
| 50% | 0.900 | ×0.960 |
| 66 2/3 % | 0.867 | ×0.970 |
| 75% | 0.850 | ×0.975 |
| 100% | 0.800 | ×0.990 |

| Form of Payment Joint & Survivor (J&S) | |
|---|---------------|
| <u>Percent</u> | <u>Factor</u> |
| 50% | 1.00 |
| 66 2/3 % | 0.93 |
| 75% | 0.90 |
| 100% | 0.80 |

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Data for Question 1 (2 points)

Consider the following statements:

- I. When determining liabilities to be reported on the Schedule SB, an enrolled actuary must ensure that all actuarial assumptions, except as mandated by law, must be reasonable individually and in combination.
- II. An AFTAP certification must describe any material inadequacies in the data on which it is based and the implications of any such inadequacies.
- III. An AFTAP certification need not describe the data, actuarial methods, and assumptions employed if it references another document that does so.

Question 1

Which, if any, of the above statements is (are) true?

- (A) I and II only
- (B) I and III only
- (C) II and III only
- (D) I, II, and III
- (E) The correct answer is not given by (A), (B), (C), or (D) above.

2013

Data for Question 2 (3 points)

Valuation date: 12/31.

A company sponsors three plans. Top-heavy testing is being performed for the 2013 plan year. The plans are not aggregated for purposes of coverage and nondiscrimination testing. No key employees participate in Plan A.

Present value of accrued benefits for:

| | <u>Plan A</u> | <u>Plan B</u> | <u>Plan C</u> |
|------------------------------------|---------------|---------------|---------------|
| Key employees as of 1/1/2012 | \$0 | \$14,000,000 | \$17,500,000 |
| Non-key employees as of 1/1/2012 | 2,000,000 | 11,500,000 | 12,000,000 |
| Key employees as of 12/31/2012 | 0 | 14,500,000 | 17,000,000 |
| Non-key employees as of 12/31/2012 | 2,200,000 | 11,500,000 | 11,500,000 |
| Key employees as of 1/1/2013 | 0 | 14,750,000 | 17,500,000 |
| Non-key employees as of 1/1/2013 | 2,400,000 | 12,250,000 | 12,000,000 |

Question 2

In what range is the 2013 top-heavy ratio for the required aggregation group?

- (A) Less than 54.5%
- (B) 54.5% but less than 55.5%
- (C) 55.5% but less than 56.5%
- (D) 56.5% but less than 57.5%
- (E) 57.5% or more

2013

Data for Question 3 (1 point)

Consider the following statement:

A withdrawal liability payment made by a company to a multiemployer plan is not included in the denominator of the allocation fraction when allocating unfunded vested benefits to other withdrawing employers.

Question 3

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 4 (3 points)

Method for determining withdrawal liability: Rolling-5.

| <u>Year</u> | Total 12/31 unfunded vested benefits (all employers) | Total 12/31 unfunded benefits (all employers) | Total contributions Employer A | Total contributions (all employers) |
|-------------|--|---|--------------------------------------|---|
| 2007 | \$18,000,000 | \$19,000,000 | \$300,000 | \$3,000,000 |
| 2008 | 20,000,000 | 21,000,000 | X | 2,500,000 |
| 2009 | 22,000,000 | 23,000,000 | 200,000 | 3,300,000 |
| 2010 | 24,000,000 | 25,000,000 | 250,000 | 3,000,000 |
| 2011 | 25,000,000 | 26,000,000 | 200,000 | 4,000,000 |
| 2012 | 23,000,000 | 24,000,000 | 200,000 | 3,000,000 |

No employers have previously withdrawn from the plan.

Employer A withdraws from the plan on 11/15/2012.

The withdrawal liability for Employer A is \$1,800,000.

Question 4

In what range is X?

- (A) Less than \$150,000
- (B) \$150,000 but less than \$225,000
- (C) \$225,000 but less than \$300,000
- (D) \$300,000 but less than \$375,000
- (E) \$375,000 or more

2013

Data for Question 5 (3 points)

Normal retirement benefit: 10% of final 5-year average compensation for each year of service, with a maximum of 10 years of service.

Data for participant Smith:

| | |
|-----------------------|----------|
| Date of birth | 1/1/1955 |
| Date of hire | 1/1/2005 |
| Date of participation | 1/1/2006 |

Compensation history:

| | |
|-------------|---------------------|
| <u>Year</u> | <u>Compensation</u> |
| 2005 | \$220,000 |
| 2006 | 240,000 |
| 2007 | 250,000 |
| 2008 | 200,000 |
| 2009 | 185,000 |
| 2010 | 200,000 |
| 2011 | 200,000 |
| 2012 | 200,000 |

Question 5

In what range is Smith's annual accrued benefit as of 12/31/2012?

- (A) Less than \$131,500
- (B) \$131,500 but less than \$139,000
- (C) \$139,000 but less than \$146,500
- (D) \$146,500 but less than \$154,000
- (E) \$154,000 or more

2013

Data for Question 6 (1 point)

2012 AFTAP: 68%.

As a result of a plant shutdown that occurs in 2012, the plan pays unpredictable contingent event benefits to eligible participants.

As of 4/1/2013 the plan's 2013 AFTAP has not been certified.

Consider the following statement:

During 2013, the plan may continue to pay the unpredictable contingent event benefits related to the 2012 shutdown to eligible participants.

Question 6

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 7 (1 point)

Plan A provides an accrued benefit of 3.75% of average compensation for each of a participant's first 10 years of service, plus 4.50% of average compensation for the next 10 years of service, plus 5.25% of average compensation for all subsequent years of service.

Consider the following statement:

The plan satisfies the accrued benefit requirements of IRC section 411(b).

Question 7

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 8 (1 point)

A multiemployer plan experiences a mass withdrawal. All employers withdraw from the plan. A calculation of the withdrawal liability for Employer A determines that it will take 25 years to pay the obligation.

Consider the following statement:

Employer A is required to make a maximum of 20 years of payments.

Question 8

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 9 (1 point)

An employer completely withdraws from a multiemployer plan on 7/1/2013. A non-zero withdrawal liability is computed for the employer.

Consider the following statement:

The required annual payment for the withdrawing employer will be determined based on the average number of the employer's contribution base units for the highest 5 consecutive plan years out of the 10 consecutive plan years ending before 1/1/2013 in which the employer had an obligation to contribute.

Question 9

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 10 (1 point)

An employer maintains two plans. Plan A covers only salaried employees; Plan B covers only hourly employees.

The employer terminates Plan A and purchases annuities for all participants and beneficiaries of the plan. This annuity purchase satisfies all benefit obligations of the plan. With the resulting excess assets, the employer makes a contribution to Plan B.

Consider the following statement:

The excise tax because of this reversion is \$0.

Question 10

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 11 (2 points)

While preparing the actuarial valuation for the 2013 plan year, an enrolled actuary believes that the client, who has already paid the enrolled actuary for the 2013 valuation services, intends to use the valuation results in a fraudulent manner.

Consider the following statements:

- I. The enrolled actuary must report his findings to the Department of Labor before continuing work on the valuation.
- II. The enrolled actuary must report his findings to the Internal Revenue Service before continuing work on the valuation.
- III. The enrolled actuary must cease performing the actuarial valuation for the 2013 plan year.

Question 11

Which, if any, of the above statements is (are) true?

- (A) I only
- (B) II only
- (C) III only
- (D) I, II, and III
- (E) The correct answer is not given by (A), (B), (C), or (D) above.

2013

Data for Question 12 (1 point)

A company has decided to terminate its pension plan and will be distributing benefits by purchasing annuity contracts.

Smith is a non-owner of the company and is not an immediate family member of any owner of the company. Smith's only duty with respect to the plan is to select the annuity provider.

Consider the following statement:

Smith is a plan fiduciary.

Question 12

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 13 (1 point)

Normal retirement age: 62.

Eligibility for unreduced early retirement: age 60 with 10 years of service.

Consider the following statement:

The plan satisfies the normal retirement age safe harbor rules.

Question 13

Is the above statement true or false?

(A) True

(B) False

2013

Data for Question 14 (2 points)

| | |
|---|------------|
| PBGC premium filing due date: | 10/15/2012 |
| PBGC premium amount due: | \$25,000 |
| Date PBGC issues written notification of premium delinquency: | 1/20/2013 |
| Date premium paid in full: | 2/28/2013 |

PBGC does not waive the late payment premium penalty charge for this plan.

Question 14

In what range is the late payment penalty charge due to PBGC?

- (A) Less than \$2,400
- (B) \$2,400 but less than \$3,600
- (C) \$3,600 but less than \$4,800
- (D) \$4,800 but less than \$6,000
- (E) \$6,000 or more

2013

Data for Question 15 (4 points)

A company sponsors two defined benefit pension plans. There is at least one key employee who participates in each plan.

Plan A:

Effective date: 1/1/2006.

Normal retirement benefit: 1.50% of compensation for each year of service.

Plan B:

Effective date: 1/1/2002.

Normal retirement benefit: \$250 per year for each year of service.

Top-heavy ratios:

| <u>Plan years</u> | <u>Plan A</u> | <u>Plan B</u> | <u>Aggregated</u> |
|-------------------|---------------|---------------|-------------------|
| 2002-2005 | N/A | 70% | 70% |
| 2006-2009 | 45% | 65% | 58% |
| 2010-2012 | 45% | 72% | 62% |

Participant data as of 12/31/2012 for two active participants:

| | <u>Smith</u> | <u>Jones</u> |
|---------------------------------|--------------|--------------|
| Participant of | Plan A | Plan B |
| Date of hire | 1/1/2005 | 1/1/2008 |
| Key employee | Never | Never |
| Annual compensation (all years) | \$50,000 | \$50,000 |

If a plan is top-heavy, the company will make the smallest increase in benefits allowable to satisfy the top-heavy requirements.

Both plans use the minimum graded vesting schedule required.

Question 15

In what range is the sum of Smith's and Jones' annual vested accrued benefit as of 12/31/2012?

- (A) Less than \$8,000
- (B) \$8,000 but less than \$9,000
- (C) \$9,000 but less than \$10,000
- (D) \$10,000 but less than \$11,000
- (E) \$11,000 or more

2013

Data for Question 16 (2 points):

For the 2013 plan year, a plan uses the Standard Premium Funding Target in determining its Variable-rate Premium.

Plan data:

| | |
|-------------------------|-----------|
| Participant count: | 10 |
| Total employees: | 12 |
| Premium funding target: | \$240,000 |
| Market value of assets: | \$180,000 |

Consider the following statement:

The Variable-rate Premium due for 2013 is \$540.

Question 16

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 17 (1 point)

Consider the following statement:

Smith, who is an owner, but not a majority owner nor an immediate family member of any other owner, may elect to forgo receipt of all or part of Smith's plan benefits to the extent necessary to enable the plan to satisfy all other plan benefit liabilities for a standard termination.

Question 17

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 18 (4 points)

Plan effective date: 1/1/2000.

During 2013, the plan is amended to increase benefits effective 9/30/2013.

Valuation results as of 1/1/2013:

| | |
|---|-------------|
| Market value of assets | \$1,740,000 |
| Actuarial value of assets | 1,750,000 |
| Funding target before amendment | 2,175,000 |
| Increase in funding target due to amendment | 175,000 |

Other information:

| | |
|--|----------|
| NHCE annuity purchases during 2012 | \$90,000 |
| NHCE annuity purchases during first 9 months of 2013 | 55,000 |
| Effective rate of interest for 2012 | 5.70% |
| Effective rate of interest for 2013 | 5.20% |

The plan sponsor makes an IRC section 436 contribution of **X** on 9/30/2013 to allow the amendment to take effect.

Question 18

In what range is **X**?

- (A) Less than \$111,500
- (B) \$111,500 but less than \$114,000
- (C) \$114,000 but less than \$116,500
- (D) \$116,500 but less than \$119,000
- (E) \$119,000 or more

2013

Data for Question 19 (2 points)

Selected information as of 1/1/2013:

| | |
|---|--------------|
| Funding target | \$50,000,000 |
| Actuarial value of assets | 39,000,000 |
| 2013 quarterly contribution requirement | 700,000 |

The only contribution the plan sponsor makes for the 2013 plan year was \$4,000,000 on 9/15/2013.

The plan has no outstanding funding waivers.

| <u>Assertion</u> | <u>Reason</u> |
|---|--|
| The plan sponsor must file an ERISA section 4010 information filing with the PBGC for the 2013 plan year. | The funding target attainment percentage is less than 80%. |

Question 19

Which of the following is true?

- (A) Both the assertion and reason are true, and the reason **is** a correct explanation of the assertion.
- (B) Both the assertion and reason are true, but the reason **is not** a correct explanation of the assertion.
- (C) The assertion is true, but the reason is false.
- (D) The assertion is false, but the reason is true.
- (E) Both the assertion and reason are false.

2013

Data for Question 20 (3 points)

Early retirement eligibility: Age 55 and 10 years of service.

Early retirement benefit: Accrued benefit reduced 5% for each year benefits commence prior to age 65.

Plan conversion factors at all ages:

| <u>Optional forms of payment</u> | <u>Plan conversion factors from life annuity</u> |
|---------------------------------------|--|
| Joint and 25% survivor annuity | 0.96 |
| Joint and 50% survivor annuity (QJSA) | 0.92 |
| Joint and 75% survivor annuity | 0.88 |

Participant information:

| | |
|-------------------------|----------|
| Date of birth | 1/1/1953 |
| Spouse's date of birth | 1/1/1948 |
| Date of hire | 1/1/2001 |
| Date of death | 1/1/2013 |
| Monthly accrued benefit | \$800 |

At the time of death, the participant had been married to his current spouse for over one year.

Question 20

In what range is the monthly qualified pre-retirement survivor benefit payable to the participant's spouse at the earliest commencement date?

- (A) Less than \$165
- (B) \$165 but less than \$290
- (C) \$290 but less than \$415
- (D) \$415 but less than \$540
- (E) \$540 or more

2013

Data for Question 21 (1 point)

A plan owns an apartment building. One of the tenants is the majority owner of the plan sponsor. The majority owner timely pays the plan the fair market rental value for the apartment each month.

Consider the following statement:

The renting of the apartment to the majority owner is a prohibited transaction.

Question 21

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 22 (5 points)

| | |
|---|--|
| Normal form of benefit: | Life annuity. |
| Optional form of benefit: | Qualified joint and 100% survivor. |
| Early retirement age: | Age 62. |
| Early retirement reduction: | 2% at age 64, 6% at age 63, and 12% at age 62. |
| Qualified joint and 100% survivor factor: | 0.90. |

Nondiscrimination testing methods and assumptions:

| | |
|------------------------|-------------------|
| Testing method | Benefits basis |
| Measurement period | Current plan year |
| Snapshot date | 12/31/2013 |
| Standard interest rate | 8.50% |

Data for participant Smith for year ending 12/31/2013:

| | |
|-----------------------------|----------|
| Age | 60 |
| Compensation | \$50,000 |
| Annual accrual | 5,000 |
| Profit sharing contribution | 4,000 |
| 401(k) deferral | 2,000 |

The profit sharing and defined benefit plans are aggregated for IRC section 410(b) and IRC section 401 testing.

Selected annuity values using plan testing assumptions:

| x | $\ddot{a}_x^{(12)}$ | QJSA |
|-----|---------------------|-------|
| 62 | 8.94 | 10.60 |
| 63 | 8.76 | 10.48 |
| 64 | 8.57 | 10.35 |
| 65 | 8.38 | 10.22 |

Question 22

What is Smith's aggregate most valuable accrual rate?

- (A) Less than 12.7%
- (B) 12.7% but less than 13.4%
- (C) 13.4% but less than 14.1%
- (D) 14.1% but less than 14.8%
- (E) 14.8% or more

2013

Data for Question 23 (3 points)

Benefit formula: 2% of final Compensation for each year of service up to 20 years.

Late retirement benefit: Greater of continued accrual or the actuarial equivalent of the normal retirement benefit.

Suspension of benefits notices are provided at normal retirement age.

Data for participant Smith:

| | |
|----------------------|----------|
| Date of birth | 1/1/1947 |
| Date of hire | 1/1/1991 |
| Date of retirement | 1/1/2013 |
| Compensation in 2011 | \$44,000 |
| Compensation in 2012 | 47,000 |

Actuarial factors at indicated age (x):

| | | |
|---------------------|-----------|-----------|
| | <u>65</u> | <u>66</u> |
| $\ddot{a}_x^{(12)}$ | 10.87 | 10.61 |
| D_{65} / D_x | 1.00 | 1.07 |

Question 23

In what range is Smith's annual accrued benefit at 1/1/2013?

- (A) Less than \$17,100
- (B) \$17,100 but less than \$18,000
- (C) \$18,000 but less than \$18,900
- (D) \$18,900 but less than \$19,800
- (E) \$19,800 or more

2013

Data for Question 24 (3 points)

Company A has been a contributing employer under a multiemployer plan for over 10 years.

Company A has decided to cease its participation on 7/1/2013 in the multiemployer plan. Doing so results in Company A's complete withdrawal from the plan.

The plan's unfunded vested obligation as of 12/31/2012 is \$5,000,000.

Withdrawal liability under the plan is computed using the rolling-5 method reflecting the mandatory de minimis rule.

Based upon its contributions in the five years prior to withdrawal, Company A is allocated \$115,000 of the unfunded vested obligations.

Question 24

In what range is the withdrawal liability for Company A?

- (A) Less than \$70,000
- (B) \$70,000 but less than \$80,000
- (C) \$80,000 but less than \$90,000
- (D) \$90,000 but less than \$100,000
- (E) \$100,000 or more

2013

Data for Question 25 (3 points)

Plan effective date: 1/1/2000.

Selected information as of 1/1/2012:

| | |
|------------------------------------|-----------|
| Market value of assets | \$750,000 |
| Actuarial value of assets | 735,000 |
| Funding standard carryover balance | 50,000 |
| Prefunding balance | 0 |
| Funding target | 800,000 |

Selected information as of 1/1/2013:

| | |
|------------------------------------|-----------|
| Market value of assets | \$742,000 |
| Actuarial value of assets | 730,000 |
| Funding standard carryover balance | 50,000 |
| Prefunding balance | 0 |

The plan pays accelerated distributions.

During the period 1/1/2013 to 3/31/2013, no 2012 plan year contributions were made and no carryover balance was used.

A 2013 AFTAP certification has not been issued.

Question 25

In what range is the deemed reduction triggered at 4/1/2013 to the funding standard carryover balance?

- (A) There is no deemed reduction
- (B) Less than \$13,250
- (C) \$13,250 but less than \$26,500
- (D) \$26,500 but less than \$39,750
- (E) \$39,750 or more

2013

Data for Question 26 (1 point)

Smith owns 53% of Company A and 100% of Company B.

An unrelated party owns the remaining 47% of Company A.

Companies A and B are not related in any other way.

Each company maintains a separate defined benefit plan for its employees.

Smith is an employee of both companies and a participant in both plans.

Consider the following statement:

The maximum benefit Smith can receive from Company A taking into account IRC section 415 must be determined without regard to the benefits provided to him by Company B's plan.

Question 26

Is the above statement true or false?

(A) True

(B) False

2013

Data for Question 27 (3 points)

Data as of 1/1/2013:

| | |
|---|--------------|
| Standard Premium Funding Target | \$56,000,000 |
| Alternative Premium Funding Target | 54,500,000 |
| Market value of assets before reflecting contributions receivable | 44,000,000 |
| Funding standard carryover balance | 2,000,000 |
| Prefunding balance | 0 |
| Number of participants | 1,000 |

Contributions paid during 2013:

| <u>Date paid</u> | <u>Amount</u> | <u>For plan year</u> |
|------------------|---------------|----------------------|
| 1/15/2013 | \$900,000 | 2012 |
| 9/15/2013 | 1,000,000 | 2012 |
| 4/15/2013 | 825,000 | 2013 |
| 7/15/2013 | 825,000 | 2013 |
| 10/15/2013 | 825,000 | 2013 |

Effective interest rates:

| | |
|----------------|-------|
| Plan year 2012 | 5.75% |
| Plan year 2013 | 5.00% |

The plan administrator has made an election to use the Alternative Premium Funding Target for the 2013 plan year.

Question 27

In what range is the PBGC Variable-rate Premium for 2013?

- (A) Less than \$56,250
- (B) \$56,250 but less than \$67,000
- (C) \$67,000 but less than \$77,750
- (D) \$77,750 but less than \$88,500
- (E) \$88,500 or more

2013

Data for Question 28 (5 points)

Plan effective date: 1/1/1990.

Plan termination date: 1/1/2013.

Benefit formula effective:

Prior to 10/1/2010 1% of final average compensation for each year of service.

On and after 10/1/2010 2% of final average compensation for each year of service.

Early retirement eligibility: Age 55 with 10 years of service.

Early retirement reduction: 5% per year prior to age 65.

Data for active participants:

| | <u>Smith</u> | <u>Jones</u> |
|---|--------------|--------------|
| Date of birth | 1/1/1953 | 1/1/1968 |
| Date of hire | 1/1/1983 | 1/1/1993 |
| Compensation for each year | \$100,000 | \$80,000 |
| Expected retirement age pursuant to PBGC regulations | 60 | 58 |

Market value of assets as of 1/1/2013: \$450,000.

Annuity factors using ERISA section 4044 assumptions:

$$\begin{aligned}\ddot{a}_{57}^{(12)} &= 17.30 \\ \ddot{a}_{60}^{(12)} &= 16.09 \\ {}_{13|}\ddot{a}_{45}^{(12)} &= 10.93\end{aligned}$$

Question 28

In what range is the present value of the PBGC guaranteed benefit not provided by assets for Jones?

- (A) Less than \$75,000
- (B) \$75,000 but less than \$90,000
- (C) \$90,000 but less than \$105,000
- (D) \$105,000 but less than \$120,000
- (E) \$120,000 or more

2013

Data for Question 29 (5 points)

A company sponsors two plans, a defined benefit plan and a profit sharing plan.

Selected plan provisions for the profit sharing plan:

| | |
|-----------------------|----------|
| Normal retirement age | 62 |
| Plan effective date | 1/1/2013 |

Nondiscrimination testing methods and assumptions:

| | |
|------------------------|-------------------|
| Testing method | Benefits basis |
| Measurement period | Current plan year |
| Snapshot date | 12/31/2013 |
| Standard interest rate | 8.00% |

The most valuable accrual rate is equal to the normal accrual rate.

Data for all employees as of 12/31/2013:

| | <u>Age at 12/31/2013</u> | <u>Profit sharing allocation</u> | <u>401(k) deferral</u> | <u>Annual defined benefit plan accrual</u> | <u>Testing compensation</u> |
|-------|------------------------------|--------------------------------------|----------------------------|--|---------------------------------|
| NHCE1 | 35 | \$2,500 | \$4,500 | \$7,500 | \$75,000 |
| NHCE2 | 30 | 2,000 | 4,400 | 2,700 | 55,000 |
| HCE | 55 | X | 9,000 | 28,200 | 125,000 |

Selected annuity factors using testing assumptions:

$$\ddot{a}_{62} = 9.88 \qquad \ddot{a}_{65} = 9.35$$

X = the largest allocation that will allow the plans to pass the average benefit percentage test.

Question 29

In what range is **X**?

- (A) Less than \$10,000
- (B) \$10,000 but less than \$19,000
- (C) \$19,000 but less than \$28,000
- (D) \$28,000 but less than \$37,000
- (E) \$37,000 or more

2013

Data for Question 30 (1 point)

Selected data for 2012:

| | <u>Total accrued benefits</u> | <u>Present value of total accrued benefits</u> |
|-------------------|-------------------------------|--|
| Key employees | \$200,000 | \$2,800,000 |
| Non-key employees | 160,000 | 1,600,000 |

Consider the following statement:

The plan is top-heavy for 2013.

Question 30

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 31 (1 point)

A plan allows for adequately secured loans up to \$10,000 to any participant. The plan requires that the loan bear a reasonable rate of interest as determined with reference to current market rates.

Smith, a 50% owner and plan participant, takes an \$8,000 loan in accordance with the terms of the plan.

Consider the following statement:

Smith's loan is a prohibited transaction.

Question 31

Is the above statement true or false?

(A) True

(B) False

2013

Data for Question 32 (2 points)

Plan effective date: 1/1/2005.

Benefit formula: 1.5% per year of service times final compensation.

The plan has been top-heavy in every year and provides for the smallest allowable benefit.

Data for non-key participant Smith:

| | |
|----------------------|---------------------|
| Date of birth | 1/1/1970 |
| Date of hire | 1/1/2003 |
| Date of termination | 1/1/2013 |
| Compensation history | |
| <u>Year</u> | <u>Compensation</u> |
| 2003 | \$35,000 |
| 2004 | 35,000 |
| 2005 | 42,000 |
| 2006 | 42,000 |
| 2007 | 42,000 |
| 2008 | 45,000 |
| 2009 | 41,000 |
| 2010 | 40,000 |
| 2011 | 38,000 |
| 2012 | 41,000 |

Question 32

In what range is Smith's accrued benefit?

- (A) Less than \$6,200
- (B) \$6,200 but less than \$6,750
- (C) \$6,750 but less than \$7,300
- (D) \$7,300 but less than \$7,850
- (E) \$7,850 or more

2013

Data for Question 33 (1 point)

Participant Smith continues employment past normal retirement age and is provided a suspension of benefits notice at normal retirement age. Smith subsequently retires four years after normal retirement age.

Consider the following statement:

The benefit payable to Smith must not be less than the actuarial equivalent of the normal retirement benefit.

Question 33

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 34 (3 points)

Participant information as of 12/31/2012:

| | |
|----------------------------|---|
| Vested active | 7 |
| Non-vested active | 2 |
| Retirees and beneficiaries | 2 |

The sponsor has 4 additional employees who are not plan participants.

Data as of 1/1/2013:

| | |
|----------------------------------|-----------|
| Market value of plan assets | \$285,000 |
| Actuarial value of plan assets | 300,000 |
| Standard premium funding target: | |
| Vested benefits | 355,000 |
| Non-vested benefits | 20,000 |

Question 34

In what range is the total 2013 PBGC premium for this plan?

- (A) Less than \$860
- (B) \$860 but less than \$935
- (C) \$935 but less than \$1,010
- (D) \$1,010 but less than \$1,085
- (E) \$1,085 or more

2013

Data for Question 35 (1 point)

Smith, an unmarried participant, retires at age 65 in 2013 and elects a joint and 100% survivor annuity. Smith designates his disabled sister, who is completely dependent on him financially, as his beneficiary.

Consider the following statement:

The maximum annual benefit that Smith can receive at retirement is \$205,000.

Question 35

Is the above statement true or false?

(A) True

(B) False

2013

Data for Question 36 (2 points)

A plan provides for lump sum distributions.

Data for participant Smith:

| | |
|---|-------------|
| Age at retirement | 65 |
| Lump sum limited by IRC section 415 payable at retirement | \$2,288,700 |

Actuarial factors:

| | |
|---|------------------------|
| | $\ddot{a}_{65}^{(12)}$ |
| Plan actuarial equivalence | 11.55 |
| 5.5% and applicable mortality table | 11.60 |
| Applicable IRC section 417(e) assumptions | 11.44 |

Question 36

In what range is the actuarially equivalent single life annuity payable to Smith?

- (A) Less than \$192,500
- (B) \$192,500 but less than \$195,000
- (C) \$195,000 but less than \$197,500
- (D) \$197,500 but less than \$200,000
- (E) \$200,000 or more

2013

Data for Question 37 (3 points)

A plan was amended on the plan's termination date to provide a pro-rata benefit increase that resulted in an increase in benefit liability of \$67,000.

Plan assets before the transfer of assets: \$3,985,000.

Benefit liabilities ignoring the plan amendment: 3,330,000.

At the time of the plan termination, all participants are actively employed.

Amount transferred to qualified replacement plan: \$103,000.

X = the excise tax under IRC section 4980 payable on the reversion of plan assets to the employer.

Question 37

In what range is X ?

- (A) Less than \$100,000
- (B) \$100,000 but less than \$175,000
- (C) \$175,000 but less than \$250,000
- (D) \$250,000 but less than \$325,000
- (E) \$325,000 or more

2013

Data for Question 38 (1 point)

A plan sponsor amends a plan effective 7/1/2013.

Selected data:

| | |
|-----------------------------------|-----|
| 2013 AFTAP prior to the amendment | 61% |
| 2013 AFTAP after the amendment | 59% |

Consider the following statement:

An IRC section 436 contribution deposited on 7/1/2013 that increases the AFTAP to 60% is sufficient to allow the amendment to take effect.

Question 38

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 39 (1 point)

Data for plan participant Smith:

| | |
|--------------------|----------|
| Date of birth | 1/1/1948 |
| Date of hire | 1/1/2005 |
| Date of retirement | 1/1/2013 |

Smith accrues the maximum benefit allowable under the law. The plan allows the maximum amounts under each of the options offered. Smith elected a qualified joint and 100% survivor annuity, payable beginning 1/1/2013.

Consider the following statement:

Smith's annual payment is \$205,000.

Question 39

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 40 (2 points)

Effective 12/31/2012, a plan is amended to freeze benefit accruals for active participants.

However, the amendment specifies that certain plan participants will not be affected by the amendment.

Information for all participants at 12/31/2012:

| | |
|---------------------------|----|
| Active participants | |
| Not affected by amendment | 30 |
| Affected by amendment | 50 |
| Inactive participants | |
| Terminated vesteds | 10 |
| Retirees | 15 |
| Beneficiaries | 2 |

The plan does not cover any HCEs.

The sponsor failed to provide a notice of the reduction in future benefit accruals to any plan participant within a reasonable time before the effective date of the amendment. The noncompliance period totaled 55 days, at which time the notice was provided to all plan participants.

Question 40

What is the maximum excise tax that can be imposed per IRC section 4980F due to the employer's failure to provide notice of the reduction in future benefit accruals?

- (A) Less than \$270,000
- (B) \$270,000 but less than \$345,000
- (C) \$345,000 but less than \$420,000
- (D) \$420,000 but less than \$495,000
- (E) \$495,000 or more

2013

Data for Question 41 (4 points)

Plan effective date: 1/1/2000.

Plan termination date: 5/1/2013.

Normal retirement benefit:

| <u>Effective date</u> | <u>Adoption date</u> | <u>Monthly rate for all years of service</u> |
|-----------------------|----------------------|--|
| 7/1/2006 | 1/1/2006 | \$45 |
| 7/1/2009 | 1/1/2009 | 65 |
| 7/1/2011 | 1/1/2011 | 80 |

Early retirement age: 55.

Early retirement reduction factor: 3% per year reduction for each year below age 62.

Data for non-owner participant Smith:

| | |
|-------------------------------------|--------------------------------|
| Date of birth | 4/30/1958 |
| Date of hire | 4/30/1988 |
| Date of benefit commencement | 5/1/2013 |
| Form of payment | 10-year certain & life annuity |
| Highest 5-year average compensation | \$40,000 |

Question 41

In what range is Smith's monthly PBGC guaranteed benefit as of his earliest retirement age?

- (A) Less than \$1,075
- (B) \$1,075 but less than \$1,150
- (C) \$1,150 but less than \$1,225
- (D) \$1,225 but less than \$1,300
- (E) \$1,300 or more

2013

Data for Question 42 (1 point)

A plan has \$2,000,000 of unfunded vested benefits in 2012 and 2013.

Information on the number of active plan participants:

| <u>Date</u> | <u>Number</u> |
|-------------|---------------|
| 1/1/2012 | 1,000 |
| 12/31/2012 | 740 |
| 1/1/2013 | 740 |
| 12/31/2013 | 810 |

Consider the following statement:

A notice of a reportable event must be filed for both the 2012 and 2013 plan years.

Question 42

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 43 (1 point)

A participant dies leaving a spouse beneficiary. The spouse is also an active participant.

Consider the following statement:

In the premium payment year following the participant's death, the plan sponsor is not required to pay a PBGC Flat-rate Premium on behalf of the deceased participant.

Question 43

Is the above statement true or false?

(A) True

(B) False

2013

Data for Question 44 (3 points)

Normal retirement benefit: 4% of final 3-year average compensation for each year of service.

A participant who terminates with 10 years of service may commence their accrued benefit as early as age 55, reduced 3% for each year the accrued benefit commencement date precedes normal retirement date.

The QJSA is a 100% joint and survivor annuity.

Select conversion factors at any age:

| | |
|--------------------------------|------|
| Joint and 50% survivor factor | 0.94 |
| Joint and 100% survivor factor | 0.89 |

Data for participant Smith:

| | |
|----------------------------|-----------|
| Date of birth | 1/1/1960 |
| Date of employment | 1/1/2002 |
| Date of death | 1/1/2013 |
| Compensation for each year | \$100,000 |

At the time of death, Smith had been married to his current spouse for over one year.

The earliest the plan will pay a qualified pre-retirement survivor annuity is the latest date allowed by law.

Question 44

In what range is the annual benefit payable to Smith's spouse as a qualified pre-retirement survivor annuity at the earliest date available?

- (A) Less than \$17,750
- (B) \$17,750 but less than \$20,250
- (C) \$20,250 but less than \$22,750
- (D) \$22,750 but less than \$25,250
- (E) \$25,250 or more

2013

Data for Question 45 (2 points)

Information for all employees:

| | <u>HCEs</u> | <u>NHCEs</u> |
|---------------------------------|-------------|--------------|
| Non-excludable employees | 500 | 9,500 |
| Employees benefiting under plan | 100 | 400 |

Question 45

In what range is the absolute value of the difference between the ratio percentage and the safe harbor percentage for the plan?

- (A) Less than 1.10%
- (B) 1.10% but less than 1.60%
- (C) 1.60% but less than 2.10%
- (D) 2.10% but less than 2.60%
- (E) 2.60% or more

2013

Data for Question 46 (1 point)

A plan sponsor is proceeding with a standard termination.

Consider the following statement:

The most valuable benefit for each missing participant is determined as of the deemed distribution date using the most valuable optional form payable at normal retirement age.

Question 46

Is the above statement true or false?

(A) True

(B) False

2013

Data for Question 47 (1 point)

A company has 100 employees in 2012, all of whom are HCEs. The company maintains a plan that benefits 50 of the employees.

Consider the following statement:

The plan satisfies IRC section 410(b) coverage requirements for 2012.

Question 47

Is the above statement true or false?

- (A) True
- (B) False

2013

Data for Question 48 (1 point)

An enrolled actuary signed a certification stating that the 2013 AFTAP is 78.10%.

He is later terminated as the enrolled actuary for the 2013 plan year.

He discovers that the new enrolled actuary signed a certification stating that the 2013 AFTAP is 80.60%.

Consider the following statement:

The original enrolled actuary is required to notify the IRS regarding the 2013 AFTAP certification he signed.

Question 48

Is the above statement true or false?

(A) True

(B) False

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Answer Key EA-2L Spring 2013

Revised July 15, 2013

| Question | Answer | | Question | Answer |
|--|---------------|--|-----------------|---------------|
| 1 | D | | 26 | B |
| 2 | E | | 27 | D |
| 3 | A | | 28 | A |
| 4 | B | | 29 | D* |
| 5 | C | | 30 | A |
| 6 | A | | 31 | B |
| 7 | B | | 32 | C |
| 8 | B | | 33 | B |
| 9 | B | | 34 | D |
| 10 | B | | 35 | B |
| 11 | C | | 36 | D |
| 12 | A | | 37 | A |
| 13 | A | | 38 | B |
| 14 | E | | 39 | B |
| 15 | B | | 40 | B |
| 16 | B | | 41 | B |
| 17 | B | | 42 | A |
| 18 | C | | 43 | B |
| 19 | B | | 44 | E |
| 20 | B | | 45 | E |
| 21 | A | | 46 | B |
| 22 | D | | 47 | A |
| 23 | D | | 48 | B |
| 24 | D | | | |
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| *Credit was also awarded for answer “E” based on an alternate interpretation of the question | | | | |

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