

AMERICAN SOCIETY OF PENSION PROFESSIONALS & ACTUARIES  
JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES  
SOCIETY OF ACTUARIES

Enrolled Actuaries Pension Examination, Segment L

# EA-2, Segment L

Date: Tuesday, May 7, 2013

Time: 1:00 p.m. – 3:30 p.m.

## INSTRUCTIONS TO CANDIDATES

1. Write your candidate number here \_\_\_\_\_. Your name must not appear.
2. Do not break the seal of this book until the supervisor tells you to do so.
3. Special conditions generally applicable to all questions on this examination are inserted in the front of this book.
4. All questions should be answered in accordance with laws, rules and regulations in effect as of November 30, 2012.
5. This examination consists of 48 True and False or multiple-choice questions worth a total of 100 points. The point value for each question is shown in parentheses at the beginning of each question.
6. Your score will be based on the point values for the questions that you answer correctly. No credit will be given for omitted answers and no credit will be lost for wrong answers; hence, you should answer all questions even those for which you have to guess. Answer choices C, D, and E will be considered incorrect answers on True-False questions.
7. A separate answer sheet is inside the front cover of this book. During the time allotted for this examination, record all your answers on side 2 of the answer sheet. **NO ADDITIONAL TIME WILL BE ALLOWED FOR THIS PURPOSE.** No credit will be given for anything indicated in the examination book but not transferred to the answer sheet. Failure to stop writing or coding your answer sheet after time is called will result in the disqualification of your answer sheet or further disciplinary action.
8. Five answer choices are given with each question, each answer choice being identified by a key letter (A to E). For each question, blacken the oval on the answer sheet which corresponds to the key letter of the answer choice that you select.
9. Use a soft-lead pencil to mark the answer sheet. To facilitate correct mechanical scoring, be sure that, for each question, your pencil mark is dark and completely fills only the intended oval. Make no stray marks on the answer sheet. If you have to erase, do so completely.
10. Do not spend too much time on any one question. If a question seems too difficult, leave it and go on.
11. While every attempt is made to avoid defective questions, sometimes they do occur. If you believe a question is defective, the supervisor or proctor cannot give you any guidance beyond the instructions on the exam booklet.
12. Clearly indicated answer choices in the test book can be an aid in grading examinations in the unlikely event of a lost answer sheet.
13. Use the blank portions of each page for your scratch work. Extra blank pages are provided at the back of the examination book.
14. When the supervisor tells you to do so, break the seal on the book and remove the answer sheet.  
  
On side 1 of the answer sheet, space is provided to write and to code candidate information. Complete Blocks A through G as follows:
  - (a) in Block A, print your name and the name of this test center;
  - (b) in Block B, print your last name, first name and middle initial and code your name by blackening the ovals (one in each column) corresponding to the letters of your name; for each empty box, blacken the small rectangle immediately above the "A" oval;
  - (c) write your candidate number in Block C (as it appears on your ticket of admission for this examination) and write the number of this test center in Block D (the supervisor will supply the number);
  - (d) code your candidate number and center number by blackening the five ovals (one in each column) corresponding to the five digits of your candidate number and the three ovals (one in each column) corresponding to the three digits of the test center number, respectively. Please be sure that your candidate number and the test center number are coded correctly;
  - (e) in Block E, code the examination that you are taking by blackening the oval to the left of "Course EA-2, Segment L."
  - (f) in Block F, blacken the appropriate oval to indicate whether you are using a calculator; and
  - (g) in Block G, sign your name and write today's date. If the answer sheet is not signed, it will not be graded.  
On side 2 of your answer sheet, space is provided at the top for the number of this examination book. Enter the examination book number, from the upper right-hand corner of this examination book, in the four boxes at the top of side 2 marked "BOOKLET NUMBER."
15. After the examination, the supervisor will collect this book and the answer sheet separately. **DO NOT ENCLOSE THE ANSWER SHEET IN THE BOOK.** All books and answer sheets must be returned. **THE QUESTIONS ARE CONFIDENTIAL AND MAY NOT BE TAKEN FROM THE EXAMINATION ROOM.**



**\*\*BEGINNING OF EXAMINATION\*\***

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.

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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

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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

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Data for Question 4 (3 points)

Method for determining withdrawal liability: Rolling-5.

<u>Year</u>	Total 12/31 unfunded vested benefits <u>(all employers)</u>	Total 12/31 unfunded benefits <u>(all employers)</u>	Total contributions <u>Employer A</u>	Total contributions <u>(all employers)</u>
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

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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

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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

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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

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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

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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

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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

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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.

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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

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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

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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

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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

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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

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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

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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

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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.

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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

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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

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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

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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

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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

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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

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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

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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

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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:

$$\ddot{a}_{57}^{(12)} = 17.30$$

$$\ddot{a}_{60}^{(12)} = 16.09$$

$${}_{13|}\ddot{a}_{45}^{(12)} = 10.93$$

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

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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</u> <u>12/31/2013</u>	<u>Profit sharing</u> <u>allocation</u>	<u>401(k)</u> <u>deferral</u>	<u>Annual defined</u> <u>benefit plan accrual</u>	<u>Testing</u> <u>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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

**\*\*END OF EXAMINATION\*\***

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