

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 6, 2014

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, 2013.
5. This examination consists of 43 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 the front of the answer sheet, space is provided to write and code candidate information. Complete the information requested by printing in the squares and blackening the circles (one in each column) corresponding to the letters or numbers printed. For each empty box blacken the small circle immediately above the "A" circle. Fill out the boxes titled:

  - (a) Name  
(Include last name, first name and middle initial)
  - (b) Candidate Number  
(Candidate/Eligibility Number, use leading zeros if needed to make it a five digit number)
  - (c) Test Site Code  
(The supervisor will supply the number.)
  - (d) Examination Part  
(Code the examination that you are taking by blackening the circle to the left of "Exam EA-2L")
  - (e) Booklet Number  
(The booklet number can be found in the upper right-hand corner of this examination book. Use leading zeros if needed to make it a four digit number.)

In the box titled "Complete this section only if instructed to do so", fill in the circle to indicate if you are using a calculator and write in the make and model number.

In the box titled "Signature and Date" sign your name and write today's date. **If the answer sheet is not signed, it will not be graded.**

Leave the boxes titled "Test Code" and "Form Code" blank.

On the back of the answer sheet fill in the Booklet Number in the space provided.
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 (1 point)

A plan offers a qualified joint and 50% survivor annuity that is the actuarial equivalent of the life annuity. The plan also offers the following actuarially equivalent optional annuities: joint and 66-2/3% survivor and joint and 100% survivor.

Consider the following statement:

The plan meets the qualified optional survivor annuity requirement of IRC section 417(g).

Question 1

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 2 (1 point)

A plan has \$100,000 in assets and \$95,000 in vested benefits.

A substantial owner who has terminated from employment receives a lump sum distribution of \$6,000.

Consider the following statement:

A notice of a reportable event must be filed with the PBGC because of the lump sum distribution.

Question 2

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 3 (3 points)

A company sponsors two plans:

Salaried plan eligibility requirements	21 years of age 6 months of service
Hourly plan eligibility requirements	18 years of age 1 year of service

The salaried and hourly plans are aggregated for purposes of IRC section 410(b) coverage testing.

Information for NHCEs in 2013:

<u>Age</u>	<u>Service</u>	<u>Salaried</u>	<u>Hourly</u>
Under 18	Under 6 months	3	5
Under 18	At least 6 months, under 1 year	1	3
Under 18	At least 1 year	0	1
18 and over, under 21	Under 6 months	2	15
18 and over, under 21	At least 6 months, under 1 year	1	10
18 and over, under 21	At least 1 year	0	10
21 and over	Under 6 months	5	25
21 and over	At least 6 months, under 1 year	10	35
21 and over	At least 1 year	20	20

$X$  = the number of non-excludable NHCEs for purposes of 2013 IRC section 410(b) coverage testing.

Question 3

In what range is  $X$ ?

- (A) Less than 60
- (B) 60 but less than 75
- (C) 75 but less than 90
- (D) 90 but less than 105
- (E) 105 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**



Data for Question 4 (1 point)

Consider the following statement:

An enrolled actuary may rely in good faith upon the information furnished by the client, without verification, if the information appears to be reasonable.

Question 4

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 5 (1 point)

Consider the following statement:

The accrued benefit of a former key employee is excluded entirely from the determination of whether a plan is top-heavy.

Question 5

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 6 (5 points)

During 2013, Smith and Jones were participants in a defined benefit plan and a profit sharing plan that has employee deferrals and employer matching contributions.

Data for participants:

	<u>Smith</u>	<u>Jones</u>
Date of birth	1/1/1954	1/1/1984
Date of hire	1/1/1990	1/1/2009
Salary for 2013	\$350,000	\$65,000
Annual defined benefit accruals	10,000	2,500
Vesting in defined benefit plan	100%	0%
Salary deferrals	\$15,000	\$2,000
Employer matching contributions	5,000	1,000
Vesting in matching contributions	100%	80%
Profit sharing contributions	\$4,000	\$0
Vesting in profit sharing	100%	80%

Nondiscrimination testing methods and assumptions:

Testing basis	Equivalent allocation
Snapshot date	12/31/2013
Standard interest rate	7.5%

Selected annuity factor using testing assumptions:  $\ddot{a}_{65}^{(12)} = 9.88$ .

$X$  = Smith's benefit percentage for the average benefits test.

$Y$  = Jones's benefit percentage for the average benefits test.

Question 6

In what range is  $X + Y$ ?

- (A) Less than 34%
- (B) 34% but less than 38%
- (C) 38% but less than 42%
- (D) 42% but less than 46%
- (E) 46% or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 7 (3 points)

Earliest retirement eligibility: Age 55 with 5 years of service.  
Early retirement benefit: Accrued benefit reduced 3% for each year the benefit commencement date precedes normal retirement date.  
QJSA percentage: 100%.

Data for participant Smith:

Date of birth	1/1/1956
Date of hire	1/1/2009
Date of marriage	1/1/2010
Annual accrued benefit	\$30,000

Selected conversion factors:

Joint and 50% survivor	94%
Joint and 75% survivor	92%
Joint and 100% survivor	89%

Smith retires at the earliest age allowed under the terms of the plan and chooses the qualified optional survivor annuity (QOSA) as his form of payment on his annuity starting date.

$X$  = the annual benefit payable to Smith's surviving spouse upon his death after his earliest commencement date.

Question 7

In what range is  $X$ ?

- (A) Less than \$11,500
- (B) \$11,500 but less than \$14,000
- (C) \$14,000 but less than \$16,500
- (D) \$16,500 but less than \$19,000
- (E) \$19,000 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**



Data for Question 8 (4 points)

Selected plan information:

Early retirement eligibility	Age 55 and 10 years of service
Early retirement reduction	5% per year before age 65
Benefit formula	Benefit rate times years of service
Date of plan termination	1/1/2013

The sponsor continues to operate after the date of plan termination.

Schedule of monthly benefit rates for all years of service:

<u>Effective</u>	<u>Benefit rate</u>
1/1/2008	\$10.00
1/1/2009	15.00
1/1/2011	18.00
1/1/2013	20.00

Data for active participant Smith:

Age at plan termination	55
Years of service at plan termination	20

$X$  = the PBGC guaranteed monthly benefit for Smith if he retires at age 58.

Question 8

In what range is  $X$ ?

- (A) Less than \$208
- (B) \$208 but less than \$238
- (C) \$238 but less than \$268
- (D) \$268 but less than \$298
- (E) \$298 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 9 (2 points)

Current benefit formula:           \$30 per year of service for hourly employees.  
  \$50 per year of service for salaried employees.

Current early retirement benefit: Unreduced accrued monthly benefit, payable at age 62.

Data for participant Smith:

Date of birth	1/1/1960
Employment status	Salaried

The following events occur:

- I.     The plan is amended effective 1/1/2015 so that the benefit formula for salaried employees is \$50 per year of service prior to 1/1/2015, plus \$40 per year of service after 12/31/2014.
- II.    Smith's employment status is changed to hourly, on 12/31/2015.
- III.   The plan is amended to remove the subsidized early retirement benefit for future accruals, effective 12/31/2016.

Question 9

Which, if any, of the above events require advance notification to Smith under ERISA section 204(h)?

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

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 10 (1 point)

A plan sponsor has issued a notice of intent to terminate under the distress termination process. The PBGC is reviewing the request to terminate the plan.

The plan's AFTAP is 85% and the sponsor is not in bankruptcy.

Consider the following statement:

During the termination proceedings, the plan may pay benefits under any form offered under the plan.

Question 10

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 11 (4 points)

A new company is established on 1/1/2000, and becomes a contributory employer to a multiemployer plan on that date.

<u>Year</u>	<u>Total contribution base units for employer</u>
2000	250,000
2001	180,000
2002	160,000
2003	200,000
2004	150,000
2005	110,000
2006	100,000
2007	170,000
2008	60,000
2009	20,000
2010	42,000
2011	30,000
2012	30,000
2013	35,000
2014	60,000

At no point did the employer permanently cease to have an obligation to contribute to the plan under any collective bargaining agreement or with respect to any of the facilities at which work was performed.

Question 11

In what year, if any, did the first partial withdrawal occur with respect to the employer?

- (A) 2010
- (B) 2011
- (C) 2012
- (D) 2013
- (E) The correct answer is not given by (A), (B), (C), or (D) above.

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**



Data for Question 12 (1 point)

A plan's normal retirement age is the latest allowable under the law.

Data for participant Smith:

Date of birth	1/1/1949
Date of hire	1/1/2009
Date of participation	1/1/2010

Consider the following statement:

Smith's normal retirement date is 1/1/2015.

Question 12

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 13 (4 points)

Selected data for participant Smith:

Date of retirement	1/1/2014
Age at late retirement	66
Years of service	10
Years of participation	9
Annual compensation before 2011	\$205,000
2011 compensation	208,000
2012 compensation	210,000
2013 compensation	165,000

	<u>Late retirement factor from age 65</u>	<u>Lump sum factor at late retirement</u>
Applicable mortality and 5.25% (plan actuarial equivalence)	1.089	11.55
Applicable mortality and 5.0%	1.088	11.79
Applicable mortality and 5.5%	1.091	11.32
Applicable 417(e) assumptions	1.054	11.91

Question 13

In what range is Smith's maximum lump sum benefit payable upon late retirement?

- (A) Less than \$2,179,000
- (B) \$2,179,000 but less than \$2,229,000
- (C) \$2,229,000 but less than \$2,279,000
- (D) \$2,279,000 but less than \$2,329,000
- (E) \$2,329,000 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 14 (3 points)

Selected information as of 1/1/2014:

Funding standard carryover balance	\$80,000
Prefunding balance	50,000
Actuarial (market) value of assets	2,400,000
Funding target	3,000,000

History of annuity purchases:

	<u>2012</u>	<u>2013</u>	<u>2014</u>
Annuity purchases for NHCEs	\$0	\$98,000	\$10,000
Annuity purchases for HCEs	0	12,000	10,000
Total annuity purchases	0	110,000	20,000

The plan sponsor takes action to maintain an AFTAP of at least 80% for all plan years.

$X$  = the reduction in the prefunding balance needed to obtain an AFTAP of 80% as of 1/1/2014.

Question 14

In what range is  $X$ ?

- (A) Less than \$25,000
- (B) \$25,000 but less than \$30,000
- (C) \$30,000 but less than \$35,000
- (D) \$35,000 but less than \$40,000
- (E) \$40,000 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 15 (1 point)

Plan effective date: 1/1/2012.

There is no predecessor plan.

Consider the following statement:

The plan is exempt from limitations on accelerated benefit distributions under IRC section 436 until the plan year beginning 1/1/2017.

Question 15

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**



Data for Question 16 (4 points)

A company sponsors an hourly plan and a salaried plan.

Hourly plan participation requirements: 21 years of age and 1 year of service.

Salaried plan participation requirements: 18 years of age and 1 year of service.

The plans are aggregated for purposes of 410(b) coverage testing. The company does not separately test otherwise excludable employees.

Employees from hourly plan:	NHCEs		HCEs	
	Count	Average benefit percentage	Count	Average benefit percentage
Under 1 year of service	40	0.0%	0	0.0%
1+ year of service and ages 18 to 20	35	0.0%	0	0.0%
1+ year of service and ages 21 to 39	20	2.5%	10	2.0%
1+ year of service and ages 40+	10	2.0%	15	1.8%

Employees from salaried plan:	NHCEs		HCEs	
	Count	Average benefit percentage	Count	Average benefit percentage
Under 1 year of service	30	0.0%	0	0.0%
1+ year of service and ages 18 to 20	15	1.8%	0	0.0%
1+ year of service and ages 21 to 39	20	2.0%	5	2.2%
1+ year of service and ages 40+	10	1.8%	20	1.8%

$X$  = the average benefits percentage for purposes of IRC section 410(b) coverage testing.

Question 16

In what range is  $X$ ?

- (A) Less than 56%
- (B) 56% but less than 71%
- (C) 71% but less than 86%
- (D) 86% but less than 101%
- (E) 101% or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 17 (1 point)

An outside auditor asks a plan's enrolled actuary for supplemental information relating to the actuary's valuation report.

Consider the following statement:

The actuary must provide the requested information.

Question 17

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 18 (3 points)

Selected data for participant Smith:

Date of birth	1/1/1960
Date of hire	1/1/2010
Date of entry	1/1/2012
2010 compensation	\$60,000
2011 compensation	75,000
2012 compensation	40,000
2013 compensation	250,000

$X$  = Smith's maximum annual accrued benefit as of 12/31/2012, payable as a life annuity at normal retirement date.

$Y$  = Smith's maximum annual accrued benefit as of 12/31/2013, payable as a life annuity at normal retirement date.

Question 18:

In what range is  $Y - X$ ?

- (A) Less than \$21,500
- (B) \$21,500 but less than \$24,500
- (C) \$24,500 but less than \$27,500
- (D) \$27,500 but less than \$30,500
- (E) \$30,500 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 19 (1 point)

Consider the following statement:

A plan sponsor's decision to terminate its plan is a fiduciary action.

Question 19

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**



Data for Question 20 (4 points)

Plan effective date: 1/1/2004.

Normal retirement benefit: 5.0% of final compensation per year of service.

Funding standard carryover balance as of 1/1/2014: \$0.

Prefunding balance as of 1/1/2014: \$15,000.

Actuarial (market) value of assets as of 1/1/2014: \$395,000.

Effective interest rate for 2014: 6.0%.

The 2014 AFTAP is certified on 5/1/2014.

On 7/1/2014, the plan formula is amended to 5.5% of final compensation per year of service.

Selected data for sole participant:

Date of birth	1/1/1949
Date of hire	1/1/2004
Compensation for all years	\$100,000

Selected annuity value:

$$\ddot{a}_{65}^{(12)} = 9.98$$

$X$  = the smallest contribution made on 7/1/2014 that would permit the plan amendment to take effect.

Question 20

In what range is  $X$ ?

- (A) Less than \$35,000
- (B) \$35,000 but less than \$40,000
- (C) \$40,000 but less than \$45,000
- (D) \$45,000 but less than \$50,000
- (E) \$50,000 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 21 (4 points)

Selected data for participants Smith and Jones:

	<u>HCE/ NHCE</u>	<u>2013 compensation</u>	<u>Date of birth</u>	<u>Annual accrual in 2013</u>	<u>2013 covered compensation</u>
Smith	HCE	\$250,000	8/1/1960	\$1,804	\$95,160
Jones	NHCE	40,000	3/1/1985	X	110,100

The plan is tested on a benefits basis and permitted disparity is imputed.

The plan has no provisions for payments of benefit prior to normal retirement date.

The most valuable accrual rate is equal to the normal accrual rate at the testing age of 65.

X = the minimum benefit accrued by Jones in 2013 so that Jones is in Smith's rate group.

Question 21

In what range is X?

- (A) Less than \$108
- (B) \$108 but less than \$132
- (C) \$132 but less than \$156
- (D) \$156 but less than \$180
- (E) \$180 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 22 (1 point)

Plan year: 4/1 – 3/31.

A single employer plan undergoes a distress termination on 5/1/2012. The PBGC became a trustee of the plan under ERISA 4042 on 6/5/2013.

Consider the following statement:

A Comprehensive Premium Filing form and payment are due for the plan year beginning 4/1/2013.

Question 22

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 23 (4 points)

Consider the following chronology concerning a plan:

1/1/2009	Plan adopted
1/15/2009	2009 AFTAP certified at 100%
2/1/2010	2010 AFTAP certified at 85%
5/1/2011	2011 AFTAP range certification issued at 80% or higher
12/1/2011	2011 AFTAP issued at 85%
7/1/2012	2012 AFTAP issued at 58%
3/1/2013	2013 AFTAP issued at 72%
11/1/2014	2014 AFTAP issued at 65%

The plan offers a lump sum payment form. The plan does not provide for automatic restoration of benefit accruals when a restriction is lifted.

The plan sponsor does not elect to maintain a prefunding balance.

As of 1/1/2015:

$X$  = the number of completed months during the plan's history in which accelerated benefit restrictions apply.

$Y$  = the number of completed months during the plan's history in which there were restrictions on benefit accruals.

In a particular month, both restrictions referred to in the definitions of  $X$  and  $Y$  could apply. Thus it is possible for a month to be counted as part of both  $X$  and  $Y$ .

Question 23

In what range is  $X + Y$ ?

- (A) Less than 33
- (B) 33 but less than 36
- (C) 36 but less than 39
- (D) 39 but less than 42
- (E) 42 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**



Data for Question 24 (1 point)

An employer withdraws from a multiemployer plan. The plan's contribution rate increased from the prior year in each year in which the employer participated in the plan.

Consider the following statement:

The employer's annual withdrawal liability is based on the payments that produce the highest average contribution for the employer for 3 consecutive plan years during the 10 years prior to the year of withdrawal.

Question 24

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 25 (3 points)

Valuation date: 12/31/2013.

Normal retirement benefit formula: 1.25% of final 3-year average compensation for each year of service.

The plan provides the minimum allowable top-heavy benefit.

A key employee benefited in every year since 2000.

Data for non-key participant Smith:

Date of birth 1/1/1954  
Date of hire 1/1/2000

<u>Year</u>	<u>Compensation</u>
2000	\$40,000
2001	42,000
2002	45,000
2003	55,000
2004	49,000
2005	52,000
2006	55,000
2007	60,000
2008	59,000
2009	65,000
2010	75,000
2011	65,000
2012	75,000
2013	85,000

The plan was top-heavy for all years other than 2007, 2008 and 2009.

Question 25

In what range is Smith's annual accrued benefit as of 12/31/2013?

- (A) Less than \$13,500
- (B) \$13,500 but less than \$14,500
- (C) \$14,500 but less than \$15,500
- (D) \$15,500 but less than \$16,500
- (E) \$16,500 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 26 (1 point)

2014 AFTAP, certified on 6/1/2014: 95.60%.

An error was discovered in the 1/1/2014 assets, and as a result they were restated on 7/1/2014.

If the AFTAP were recertified due to the asset adjustment, it would be 100.20%.

The plan sponsor is not in bankruptcy.

Consider the following statement:

A recertification of the 2014 AFTAP is required.

Question 26

Is the above statement true or false?

(A) True

(B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 27 (5 points)

Selected plan information:

Plan qualified joint and survivor	Qualified joint and 50% survivor
Early retirement eligibility	Age 60 and 10 years of service
Early retirement reduction	6% for each year prior to age 65

Testing assumptions and method:

Testing method	Benefits basis
Measurement period	Current plan year
Testing age	65
Standard interest rate	8.5%

Data for participant Smith:

Age at testing date	55
Service at testing date	15 years
Annual compensation for 2014	\$30,000
Increase in annual accrued benefit during 2014	\$600
QJSA conversion factor	0.90

Selected annuity factors using testing assumptions:

<u>Age</u>	<u>Life annuity</u>	<u>QJSA 50%</u>
60	9.72	10.35
61	9.57	10.23
62	9.41	10.09
63	9.25	9.95
64	9.07	9.81
65	8.89	9.65

Question 27

In what range is Smith's most valuable accrual rate?

- (A) Less than 1.95%
- (B) 1.95% but less than 2.05%
- (C) 2.05% but less than 2.15%
- (D) 2.15% but less than 2.25%
- (E) 2.25% or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**



Data for Question 28 (3 points)

Data as of 1/1/2014:

Funding target based on MAP-21 adjusted segment rates	\$46,000,000
Funding target based on unadjusted segment rates	50,000,000
Market value of assets before reflecting contributions receivable	41,000,000
Funding standard carryover balance	2,000,000
Prefunding balance	0
Number of participants	400

All benefits are fully vested.

Plan year 2013 effective interest rate: 5.00%.

Contributions paid during 2014:

<u>Date paid</u>	<u>Amount</u>	<u>For plan year</u>
6/30/2014	\$1,000,000	2013
9/30/2014	1,000,000	2014

The plan administrator has made an election to use the Alternative Premium Funding Target for the 2014 plan year.

Question 28

In what range is the PBGC Variable-rate Premium for 2014?

- (A) Less than \$86,250
- (B) \$86,250 but less than \$99,250
- (C) \$99,250 but less than \$112,250
- (D) \$112,250 but less than \$125,250
- (E) \$125,250 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 29 (2 points)

A company is a member of a controlled group. The company sponsors the only plan in the controlled group.

Selected data for the 2014 plan year:

FTAP	83.50%
Funding shortfall	\$2,000,000
Required quarterly installment	600,000

The required quarterly installments due on 4/15/2014 and 7/15/2014 were paid on 10/1/2014.

Consider the following statement:

An ERISA section 4010 filing must be submitted to the PBGC.

Question 29

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 30 (1 point)

Smith retires at age 60. Smith is receiving a temporary supplement until age 62. This temporary supplement is not a protected benefit under IRC section 411(d)(6).

Consider the following statement:

This temporary supplement is not included in the vested liability when determining the PBGC Variable-rate Premium.

Question 30

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 31 (3 points)

A plan was terminated 9/30/2013 with excess assets. At the time of termination there were 200 active participants. As of 12/31/2013, 20 of those participants had terminated employment.

A replacement plan was established effective 1/1/2014 in connection with the plan termination. The replacement plan covers 175 of the remaining active employees from the terminated plan.

Sufficient assets are transferred in order to satisfy the 25% asset transfer requirement.

The remaining excess amount of \$1,000,000 reverts to the plan sponsor.

Question 31

In what range is the excise tax on the employer reversion?

- (A) Less than \$170,000
- (B) \$170,000 but less than \$270,000
- (C) \$270,000 but less than \$370,000
- (D) \$370,000 but less than \$470,000
- (E) \$470,000 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**



Data for Question 32 (2 points)

Consider the following statements with respect to the standards of performance of actuarial services:

- I. In the course of preparing a report stating actuarial costs or liabilities, the enrolled actuary shall ensure that, except as mandated by law, the actuarial assumptions are reasonable on an individual basis, but not necessarily in aggregate.
- II. An enrolled actuary shall provide written notification of the non-filing of any actuarial document he/she has signed upon discovery of the non-filing. Such notification shall be made to the office of the Internal Revenue Service.
- III. An enrolled actuary shall not perform actuarial services for any person or organization that he/she believes will use the services in a fraudulent manner unless the enrolled actuary discloses the potential misuse to all related parties.

Question 32

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.

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 33 (1 point)

A plan has three trustees. A prohibited transaction occurs when one of the trustees borrows money from the plan. The other trustees have no knowledge of the transaction.

An excise tax is imposed because of the prohibited transaction.

Consider the following statement:

The excise tax is payable in full by the trustee who borrowed the money.

Question 33

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 34 (3 points)

Consider the following statements about 204(h) notice requirements:

- I. Illustrative examples are required to be provided for a change from a career average formula to a cash balance plan.
- II. For multiemployer plans, the contributing employers are responsible for reporting and paying the excise tax resulting from the plan's failure to provide a 204(h) notice.
- III. For a plan amendment that allows participants to choose between two different benefit formulas, a 204(h) notice must be provided at least 15 days before the effective date of the amendment.

Question 34

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

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 35 (1 point)

An indirect extension of credit occurs between the plan and a disqualified person.

Consider the following statement:

The transaction is a prohibited transaction.

Question 35

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**



Data for Question 36 (4 points)

Valuation date: 1/1/2014.

Selected interest rate information:

<u>Year</u>	<u>Segment rates</u>	<u>Effective rate</u>
2013	{5.25%, 5.60%, 5.80%}	5.75%
2014	{5.50%, 6.50%, 7.50%}	Not yet determined at 2/1/2014

The 2013 AFTAP was certified on 9/30/2013 to be 83.00%.

Funding standard carryover balance as of 1/1/2014: \$0.

Prefunding balance as of 1/1/2014: \$1,500,000.

Actuarial (market) value of assets as of 1/1/2014: \$25,000,000.

On 1/15/2014, the plan is amended to increase benefits effective on 2/1/2014. The increase in the funding target as of 1/1/2014 due to the 2014 plan amendment is \$3,500,000.

$X$  = the smallest contribution made on 2/1/2014 that would permit the plan amendment to take effect if the sponsor does not elect to reduce the prefunding balance.

Question 36

In what range is  $X$ ?

- (A) Less than \$1,940,000
- (B) \$1,940,000 but less than \$1,960,000
- (C) \$1,960,000 but less than \$1,980,000
- (D) \$1,980,000 but less than \$2,000,000
- (E) \$2,000,000 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 37 (1 point)

A plan's normal retirement age is 62.

Smith commences participation at age 53 and terminates, fully vested, at age 61.

According to plan provisions, unless Smith elects otherwise, payment of benefits to Smith will begin no later than the 60th day after the close of the plan year in which he attains age 65.

Consider the following statement:

The plan meets the qualification requirements with respect to postponed retirement under IRC section 401(a)(14).

Question 37

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 38 (3 points)

Information for 2014 Premium Payment Year:

Total employee count	27
Total participant count	17

All benefits are fully vested.

The full yield curve is used for IRC section 430 purposes.

The plan administrator has made an election to use the Alternative Premium Funding Target for the 2014 plan year.

Funding target based on full yield curve	\$16,000,000
Funding target based on MAP-21 adjusted segment rates	15,400,000
Actuarial (market) value of plan assets	15,100,000

Question 38

In what range is the PBGC Variable-rate Premium for 2014?

- (A) Less than \$3,900
- (B) \$3,900 but less than \$6,900
- (C) \$6,900 but less than \$9,900
- (D) \$9,900 but less than \$12,900
- (E) \$12,900 or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 39 (2 points)

Plan effective date: 1/1/2005.

The plan uses the most restrictive vesting requirements and the 7-year graded vesting schedule.

Data for participant Smith:

Date of birth	1/1/1986
Date of hire	1/1/2004
Date of termination	12/31/2007
Date of rehire	1/1/2011

Smith works over 1,000 hours in each year of employment.

Consider the following statement:

Smith is 100% vested as of 1/1/2014.

Question 39

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**



Data for Question 40 (2 points)

The calculated withdrawal liability for a contributing employer to a multiemployer plan is \$115,000 before applying the de minimis rule. The plan's unfunded vested benefit liability as of the end of the plan year prior to the date of the employer's withdrawal is \$10,000,000.

Consider the following statement:

The company's withdrawal liability after applying the de minimis rule is \$80,000.

Question 40

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 41 (3 points)

Plan year:

Profit sharing plan 10/1 - 9/30

Defined benefit plan 1/1 - 12/31

Defined benefit plan valuation date: 1/1.

Selected data for all participants:

	<u>Key employee?</u>	<u>Profit sharing account balances</u>		<u>Defined benefit plan present value of accrued benefits</u>	
		<u>9/30/2013</u>	<u>9/30/2014</u>	<u>1/1/2013</u>	<u>1/1/2014</u>
Smith	Always	\$275,000	\$350,000	\$225,000	\$300,000
Jones	Always	350,000	425,000	230,000	275,000
Brown	Only key until 2011	100,000	125,000	100,000	125,000
All others	Never	625,000	650,000	700,000	750,000

There have never been any distributions from the profit sharing plan or the defined benefit plan.

Question 41

In what range is the top-heavy ratio for the calendar year beginning 1/1/2014?

- (A) Less than 45.5%
- (B) 45.5% but less than 49.0%
- (C) 49.0% but less than 52.5%
- (D) 52.5% but less than 56.0%
- (E) 56.0% or more

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 42 (1 point)

A plan qualifies for the small employer cap for the PBGC Variable-rate Premium.

Consider the following statement:

The plan cannot qualify for the MAP-21 cap.

Question 42

Is the above statement true or false?

- (A) True
- (B) False

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**EXTRA BLANK PAPER IS PROVIDED AT THE END OF THE EXAM BOOK**

Data for Question 43 (1 point)

A plan's normal form of payment is a life annuity with payments guaranteed for 60 months, with an automatic benefit increase feature.

Consider the following statement:

For purposes of determining whether benefits satisfy the maximum benefit limitations, it is always necessary to make adjustments for both the guaranteed payment period and the automatic benefit increase feature.

Question 43

Is the above statement true or false?

- (A) True
- (B) False

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

**USE THIS PAGE FOR YOUR SCRATCH WORK**



**USE THIS PAGE FOR YOUR SCRATCH WORK**

**USE THIS PAGE FOR YOUR SCRATCH WORK**

**USE THIS PAGE FOR YOUR SCRATCH WORK**