

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 5, 2015

Time: 1:00 p.m. – 3:30 p.m.

INSTRUCTIONS TO CANDIDATES

- Write your candidate number here _____. Your name must not appear.
- Do not break the seal of this book until the supervisor tells you to do so.
- Special conditions generally applicable to all questions on this examination are inserted in the front of this book.
- All questions should be answered in accordance with laws, rules and regulations in effect as of November 30, 2014.
- This examination consists of 47 True/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.
- 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.
- 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.
- 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.
- 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.
- Do not spend too much time on any one question. If a question seems too difficult, leave it and go on.
- 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.
- Clearly indicated answer choices in the test book can be an aid in grading examinations in the unlikely event of a lost answer sheet.
- Use the blank portions of each page for your scratch work. Extra blank pages are provided at the back of the examination book.
- 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:
 - Name
(Include last name, first name and middle initial)
 - Candidate Number
(Candidate/Eligibility Number, use leading zeros if needed to make it a five digit number)
 - Test Site Code
(The supervisor will supply the number.)
 - Examination Part
(Code the examination that you are taking by blackening the circle to the left of "Exam EA-2L")
 - 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.
- 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.**

Answer Key EA-2L Spring 2015
Revised August 31, 2015

| Question | Answer | | Question | Answer |
|-----------------|---------------|--|-----------------|---------------|
| 1 | B | | 31 | B |
| 2 | B | | 32 | A |
| 3 | B | | 33 | B |
| 4 | C | | 34 | B |
| 5 | D | | 35 | A |
| 6 | A | | 36 | B |
| 7 | C | | 37 | B |
| 8 | B | | 38 | E |
| 9 | B | | 39 | B |
| 10 | B | | 40 | A |
| 11 | E | | 41 | C |
| 12 | B | | 42 | C |
| 13 | A | | 43 | B |
| 14 | B | | 44 | A |
| 15 | D | | 45 | A |
| 16 | C | | 46 | C |
| 17 | B | | 47 | A |
| 18 | A | | | |
| 19 | A | | | |
| 20 | E | | | |
| 21 | D | | | |
| 22 | C | | | |
| 23 | B | | | |
| 24 | C | | | |
| 25 | C | | | |
| 26 | A | | | |
| 27 | B | | | |
| 28 | B* | | | |
| 29 | B | | | |
| 30 | A | | | |

Credit was also awarded for answer "A" based on an alternate interpretation of the question

Data for Question 1 (1 point)

A plan uses a smoothing method to determine the actuarial value of assets for the minimum required contribution.

Consider the following statement:

The same actuarial value of assets must be used to determine the PBGC Variable-rate Premium.

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)

An employer provides a 204(h) notice to all 22,000 active participants 45 days prior to the effective date of an amendment. A mail room clerk inadvertently misplaces a stack of 100 notices. The notices are found 15 days later and immediately placed in the mail.

Consider the following statement:

An excise tax under IRC Section 4980F is imposed for late mailing of the misplaced notices.

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 (1 point)

Consider the following statement:

For purposes of determining whether a plan is top-heavy, the determination date is the last day of the preceding plan year, or in the case of the first plan year the first day of the plan year.

Question 3

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 4 (3 points)

A company maintains Plan A for its employees in Location A, Plan B for its employees in Location B, Plan C for its employees in Location C, and Plan D for its employees in Location D. All four plans provide meaningful benefit accruals to all participants.

Location C is treated as being in a qualified separate line of business for purposes of IRC section 401(a)(26) testing.

Consider the following data for all non-excludable employees of the company during 2014:

| | <u>Total</u> | | <u>Benefiting</u> | |
|--------|--------------|-------------|-------------------|-------------|
| | <u>HCE</u> | <u>NHCE</u> | <u>HCE</u> | <u>NHCE</u> |
| Plan A | 5 | 110 | 5 | 60 |
| Plan B | 10 | 60 | 10 | 35 |
| Plan C | 5 | 100 | 5 | 35 |
| Plan D | 50 | 90 | 0 | 40 |

Question 4

How many plans satisfy the participation requirements of IRC section 401(a)(26)?

- (A) 0
- (B) 1
- (C) 2
- (D) 3
- (E) 4

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 5 (3 points)

Selected information as of 1/1/2014:

| | |
|--|-------------|
| Funding target using stabilized segment rates | \$6,800,000 |
| Funding target not using stabilized segment rates | 7,300,000 |
| Benefit liability based on PBGC assumptions under ERISA section 4044 | 8,465,000 |
| Market value of assets | 4,200,000 |
| Actuarial value of assets | 4,620,000 |
| Funding standard carryover balance | 90,000 |
| Prefunding balance | 620,000 |

Question 5

In what range is the ERISA section 4010 FTAP for the 2014 information year?

- (A) Less than 40%
- (B) 40% but less than 45%
- (C) 45% but less than 50%
- (D) 50% but less than 55%
- (E) 55% or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 6 (2 points)

Consider the following statements with regard to missing participants of a plan undergoing a standard termination:

- I. If the only benefit options available under a plan are annuities, the plan must purchase an annuity for a missing participant.
- II. If the plan makes a payment to PBGC in order to provide for a lump sum for a missing participant, the amount of the payment is the amount the participant would receive as a lump sum payment if the participant was not missing, as of the deemed distribution date.
- III. If the plan makes a payment to PBGC in order to provide for a lump sum for a missing participant, the plan must automatically pay the 20% withholding amount to the IRS, if the gross lump sum amount is at least \$200.

Question 6

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

- (A) None
- (B) I only
- (C) II only
- (D) III only
- (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 7 (4 points)

Early retirement eligibility: Age 60.

Early retirement reduction: None.

Actuarial equivalence factors using applicable mortality and 5%:

| | |
|--|------|
| Early commencement from age 62 to age 60 | 0.86 |
| Early commencement from age 65 to age 60 | 0.68 |

Selected data for Smith:

| | |
|------------------------------|-----------|
| Date of birth | 1/1/1955 |
| Date of hire | 1/1/2007 |
| Date of participation | 1/1/2008 |
| Date of retirement | 1/1/2015 |
| Compensation history by year | |
| 2007 | \$135,000 |
| 2008 | 140,000 |
| 2009 | 145,000 |
| 2010 | 150,000 |
| 2011 | 155,000 |
| 2012 | 160,000 |
| 2013 | 165,000 |
| 2014 | 100,000 |

Question 7

In what range is the maximum single life annuity benefit payable to Smith upon retirement?

- (A) Less than \$108,500
- (B) \$108,500 but less than \$118,000
- (C) \$118,000 but less than \$127,500
- (D) \$127,500 but less than \$137,000
- (E) \$137,000 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 (1 point)

In connection with a standard plan termination, all annuity providers reviewed by a fiduciary received high ratings from the insurance rating services.

Consider the following statement:

The fiduciary standards with respect to the selection of annuity providers have been satisfied based on the ratings received.

Question 8

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 9 (1 point)

The Alternative Premium Funding Target is being used to determine the 2015 PBGC Variable-rate Premium.

Consider the following statement:

The Alternative Premium Funding Target for 2015 is determined using the stabilized segment rates.

Question 9

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 10 (2 points)

Selected information as of 1/1/2015:

| | |
|---|---------------|
| Number of participants | 700 |
| Funding target using stabilized rates | \$142,000,000 |
| Funding target not using stabilized rates | 155,000,000 |
| Funding standard carryover balance | 0 |
| Prefunding balance | 1,000,000 |

The plan has never had a late quarterly contribution and has always received its minimum required contributions on a timely basis.

X = the minimum value of assets such that PBGC reporting would not be required under ERISA section 4010 for the 2015 plan year.

Question 10

In what range is X ?

- (A) Less than \$124,500,000
- (B) \$124,500,000 but less than \$125,500,000
- (C) \$125,500,000 but less than \$126,500,000
- (D) \$126,500,000 but less than \$127,500,000
- (E) \$127,500,000 or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 11 (2 points)

An employer sponsors three plans: Plan A covers employees in Division A, Plan B covers employees in Division B, and Plan C covers employees in Division C.

Selected data:

| <u>Plan</u> | <u>Eligibility</u> | | | |
|----------------------------|--------------------------------|-------------------|-------------------|-------------------|
| A | Immediate | | | |
| B | Age 18 and 1 year of service | | | |
| C | Age 21 and 6 months of service | | | |
| | | <u>Division A</u> | <u>Division B</u> | <u>Division C</u> |
| Eligible employees | | 60 | 35 | 50 |
| Employees not yet eligible | | 0 | 3 | 7 |

The plan sponsor aggregates Plans A, B, and C for purposes of the coverage requirements under IRC section 410(b).

Question 11

In what range is the number of non-excludable employees?

- (A) Fewer than 145
- (B) 145 but fewer than 148
- (C) 148 but fewer than 151
- (D) 151 but fewer than 154
- (E) 154 or greater

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)

An employer has outsourced the calculation of benefits, preparation of benefit election forms, and other ministerial services to a third party administrative firm (TPA).

The employer provides the data to the TPA to calculate the benefits. The employer does not check the benefit calculations, but has reviewed and approved the methodology used by the TPA to calculate the benefits and has approved the content of the benefit election forms. The employer resolves all benefit claims disputes.

Consider the following statement:

The TPA is a fiduciary.

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 (1 point)

A plan has different benefit formulas for each of four employee groups. There have never been any HCEs in the plan.

Consider the following statement:

The plan satisfies the nondiscrimination requirements under IRC section 401(a)(4).

Question 13

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 14 (2 points)

An employer began participating in a multiemployer pension plan on 1/1/2008.

The employer's contribution base units are as follows:

| <u>Plan year</u> | <u>Contribution base units</u> |
|------------------|------------------------------------|
| 2008 | 40,000 |
| 2009 | 90,000 |
| 2010 | 75,000 |
| 2011 | 65,000 |
| 2012 | 70,000 |
| 2013 | 24,000 |
| 2014 | 20,000 |
| 2015 | 23,000 |

Consider the following statement:

A partial withdrawal for the employer occurred in 2013 due to a 70-percent contribution decline.

Question 14

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 15 (4 points)

Selected data as of 12/31/2014:

| | |
|---|----|
| Vested active participants | 15 |
| Non-vested active participants | 4 |
| Non-participating employees | 1 |
| Retirees | 4 |
| Beneficiaries | 0 |
| Alternate payees of deceased participants | 1 |

There have been no terminations during 2014.

Selected data as of 1/1/2015:

| | |
|---------------------------------|-----------|
| Market value of assets | \$415,000 |
| Actuarial value of assets | 430,000 |
| Standard premium funding target | |
| Vested benefits | 540,000 |
| Non-vested benefits | 90,000 |

Question 15

In what range is the total 2015 PBGC premium for this plan?

- (A) Less than \$4,000
- (B) \$4,000 but less than \$4,100
- (C) \$4,100 but less than \$4,200
- (D) \$4,200 but less than \$4,300
- (E) \$4,300 or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 16 (3 points)

Normal retirement benefit: \$20 per month per year of service.
Mandatory employee contributions: 5% of compensation, paid on 12/31 each year.

Selected data for Smith:

| | |
|----------------------------|----------|
| Date of birth | 1/1/1949 |
| Date of hire | 1/1/2011 |
| 2011 compensation | \$30,000 |
| 2012 compensation | 35,000 |
| 2013 compensation | 40,000 |
| 1/1/2014 vested percentage | 80% |

Selected values:

| <u>Year</u> | <u>120% of Federal mid-term rate</u> | <u>417(e) rates</u> | <u>$\ddot{a}_{65}^{(12)}$</u> |
|-------------|--|-------------------------|--|
| 2011 | 2.34% | { 5.01%, 5.07%, 6.10% } | |
| 2012 | 1.40% | { 4.07%, 4.45%, 5.24% } | |
| 2013 | 1.04% | { 5.02%, 3.57%, 4.77% } | |
| 2014 | 2.10% | { 3.24%, 4.42%, 5.40% } | 12.14 |

Question 16

In what range was the employee-derived portion of Smith's monthly annuity payable at 1/1/2014?

- (A) Less than \$34.50
- (B) \$34.50 but less than \$35.50
- (C) \$35.50 but less than \$36.50
- (D) \$36.50 but less than \$37.50
- (E) \$37.50 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 (2 points)

Valuation date: 1/1/2015.

Normal retirement benefit: 1% of 3-year final average compensation for each year of service.

Data for participant Smith:

| | |
|---|----------|
| Date of birth | 1/1/1950 |
| Date of hire | 1/1/1998 |
| Key employee | Never |
| Annual compensation history for given year(s) | |
| 1998 – 2010 | \$55,000 |
| 2011 | 60,000 |
| 2012 | 65,000 |
| 2013 | 70,000 |
| 2014 | 75,000 |

The plan was determined to be top-heavy for 2003 and all subsequent plan years.

Question 17

In what range is Smith's annual accrued benefit as of 1/1/2015?

- (A) Less than \$12,700
- (B) \$12,700 but less than \$13,900
- (C) \$13,900 but less than \$15,100
- (D) \$15,100 but less than \$16,300
- (E) \$16,300 or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 18 (1 point)

A plan sponsor is a member of a controlled group. The sponsor commences bankruptcy proceedings in 2015. All members of the controlled group are U.S. based entities.

Consider the following statement:

A PBGC Form 10 (“Post-Event Notice of Reportable Events”) must be filed as a result of the bankruptcy proceedings.

Question 18

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 19 (2 points)

Consider the following plans:

- Plan I: The normal retirement benefit equals 25% of final average compensation reduced pro rata for each year of participation at normal retirement less than 25 years. A participant's accrued benefit equals the employee's fractional rule benefit multiplied by a fraction, the numerator of which is the employee's current years of participation, and the denominator of which is the employee's projected years of participation at normal retirement age.
- Plan II: The accrued benefit equals 1.40% of compensation for each of the first 10 years of service, 1.70% of compensation for each of the next 10 years of service, and 2.00% of compensation for each year of service over 20.
- Plan III: The normal retirement age is the earlier of (a) age 62 and the completion of 10 years of service or (b) the later of age 65 and the 5th anniversary of participation.

Question 19

Based on the information provided, which, if any, of the above plans could be a safe harbor under IRC section 401(a)(4)?

- (A) Plan I only
- (B) Plan II only
- (C) Plan III only
- (D) Plans 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 20 (2 points)

Consider the following individuals:

- I. Fiduciary
- II. 51% indirect owner of the plan sponsor
- III. Person providing services to the plan
- IV. Father of the person providing services to the plan

Question 20

How many of the above individuals are considered disqualified persons for purposes of the prohibited transaction rules?

- (A) 0
- (B) 1
- (C) 2
- (D) 3
- (E) 4

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 21 (5 points)

Type of Plan: Multiemployer.

Method for withdrawal liability: Presumptive with mandatory de minimis rule.

Employer A completely withdraws from the plan on 5/1/2015.

There were no unfunded vested benefits in any year before 2012.

| <u>Year</u> | <u>5-year sum of contributions</u> | | <u>Total 12/31 unfunded vested benefits</u> | <u>12/31 initial reallocated liability pool</u> |
|-------------|------------------------------------|-------------------|---|---|
| | <u>Total</u> * | <u>Employer A</u> | | |
| 2012 | \$13,000,000 | \$1,000,000 | \$50,000,000 | |
| 2013 | 14,000,000 | 1,100,000 | 75,000,000 | \$1,000,000 |
| 2014 | 15,000,000 | 1,200,000 | 60,000,000 | 500,000 |

* *Contributions excluding prior withdrawn employers.*

Question 21

In what range is the withdrawal liability for Employer A?

- (A) Less than \$4,710,000
- (B) \$4,710,000 but less than \$4,720,000
- (C) \$4,720,000 but less than \$4,730,000
- (D) \$4,730,000 but less than \$4,740,000
- (E) \$4,740,000 or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 22 (5 points)

Nondiscrimination testing is performed using a current plan year measurement period.

A permitted disparity factor of 0.65 is used for all participants.

Data for all participants for 2015 is as follows:

| <u>Group</u> | <u>Count</u> | <u>HCE/NHCE</u> | <u>2015 compensation</u> | <u>Covered compensation</u> | <u>2015 accrual</u> | <u>Unadjusted accrual rate</u> |
|--------------|--------------|-----------------|--------------------------|-----------------------------|---------------------|--------------------------------|
| 1 | 5 | HCE | \$225,000 | \$75,000 | \$5,625 | 2.50% |
| 2 | 2 | HCE | 225,000 | 90,000 | 4,950 | 2.20% |
| 3 | 1 | HCE | 255,000 | 105,000 | 6,000 | 2.35% |
| 4 | 10 | NHCE | 50,000 | 90,000 | 1,500 | 3.00% |
| 5 | 10 | NHCE | 50,000 | 90,000 | 1,100 | 2.20% |
| 6 | 20 | NHCE | 50,000 | 90,000 | 900 | 1.80% |
| 7 | 20 | NHCE | 50,000 | 105,000 | 500 | 1.00% |

All participants were hired after 1985.

Each participant's normal accrual rate and most valuable accrual rate are equal.

Question 22

In what range is the rate group percentage for the HCE in group 3?

- (A) Less than 25%
- (B) 25% but less than 40%
- (C) 40% but less than 55%
- (D) 55% but less than 70%
- (E) 70% or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 23 (3 points)

Plan effective date: 1/1/1998.

The plan uses the most restrictive graded vesting schedule and rules that the law allows.

Benefit service: One year of service for any year with 1,000 hours or more.

Benefit formula: \$50 per month for each year of benefit service.

Benefit service is earned beginning on the date of participation and is not forfeited as long as the participant remains an employee.

Selected data for participant Smith:

| | |
|-----------------------|----------|
| Date of birth | 1/1/1985 |
| Date of hire | 1/1/2000 |
| Date of participation | 1/1/2003 |

| <u>Year</u> | <u>Hours worked</u> | <u>Year</u> | <u>Hours worked</u> |
|-------------|---------------------|-------------|---------------------|
| 2000 | 1,800 | 2008 | 450 |
| 2001 | 1,800 | 2009 | 450 |
| 2002 | 1,800 | 2010 | 1,700 |
| 2003 | 1,800 | 2011 | 1,700 |
| 2004 | 1,500 | 2012 | 1,700 |
| 2005 | 450 | 2013 | 1,700 |
| 2006 | 450 | 2014 | 1,700 |
| 2007 | 450 | 2015 | 900 |

Question 23

In what range is Smith's vested monthly accrued benefit on 12/31/2015?

- (A) Less than \$170
- (B) \$170 but less than \$270
- (C) \$270 but less than \$370
- (D) \$370 but less than \$470
- (E) \$470 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 (3 points)

A plan terminates while the plan sponsor is in bankruptcy.

Date of bankruptcy filing 12/31/2012
Date of plan termination 12/31/2014

Normal retirement benefit: 3.5% of highest 3-year average compensation for each year of service.

Selected data for Smith:

| | |
|--|-----------|
| Date of birth | 1/1/1952 |
| Date of hire | 1/1/1995 |
| Compensation for each year before 2011 | \$110,000 |
| 2011 compensation | 115,000 |
| 2012 compensation | 115,000 |
| 2013 compensation | 150,000 |
| 2014 compensation | 165,000 |

Question 24

In what range is the PBGC guaranteed monthly benefit payable at normal retirement date for Smith?

- (A) Less than \$4,200
- (B) \$4,200 but less than \$4,500
- (C) \$4,500 but less than \$4,800
- (D) \$4,800 but less than \$5,100
- (E) \$5,100 or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 25 (2 points)

Consider the following statements:

- I. When a plan has more than one form of joint and survivor annuity that satisfies the qualified joint and survivor annuity (QJSA) requirements, the joint and survivor annuity that pays the greatest percentage to the surviving spouse is deemed to be the QJSA.
- II. When a plan's qualified optional survivor annuity (QOSA) is actuarially equivalent to the QJSA, the plan may allow a participant to elect the QOSA without spousal consent.
- III. A plan's QJSA provides a survivor percentage of $66 \frac{2}{3}\%$. The plan may provide a QOSA with a spouse annuity survivor percentage of 50%.

Question 25

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

- (A) None
- (B) I only
- (C) II only
- (D) III only
- (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 26 (2 points)

Consider the following statements regarding an amendment reducing future benefit accruals:

- I. Single employer pension plans with fewer than 100 participants are not required to provide a 204(h) notice.
- II. The deadline for providing a 204(h) notice is 15 days before the effective date of the amendment for a single employer pension plan with more than 100 participants.
- III. If the plan is collectively bargained, a 204(h) notice is not required.

Question 26

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

- (A) None
- (B) I only
- (C) II only
- (D) III only
- (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 27 (2 points)

A client has refused to pay the fees for services rendered by the actuary for a study. The client is demanding return of all records that the client provided directly to the actuary, the records provided by the client's attorney directly to the actuary, the actuary's work papers and the result of his study.

Consider the following statements:

- I. The actuary can withhold the records that the client provided directly to him.
- II. The actuary can withhold his work papers and the results of his study.
- III. The actuary can withhold the records provided by the client's attorney to him.

Question 27

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

- (A) I only
- (B) II only
- (C) III only
- (D) I, II, 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 28 (5 points)

Normal retirement age: 60.

Normal retirement benefit: 7.5% of final 5-year average compensation for each year of service.

Pre-retirement death benefit: Present value of accrued benefits.

Selected data for Smith:

| | |
|--|----------------------|
| Date of birth | 12/31/1955 |
| Date of hire | 1/1/2007 |
| Date of participation | 1/1/2008 |
| Date of retirement | 12/31/2015 |
| Compensation for each year of employment | \$260,000 |
| Form of benefit | Life annuity |
| Actuarial equivalence interest rate | 8% |
| Actuarial equivalence mortality | Applicable mortality |

Annuity factors using applicable mortality:

| | | |
|-------|------------------------|-------|
| | $\ddot{a}_{65}^{(12)}$ | |
| | <hr/> | |
| x | 5% | 8% |
| <hr/> | <hr/> | <hr/> |
| 60 | 13.56 | 10.84 |
| 61 | 13.27 | 10.67 |
| 62 | 12.98 | 10.50 |

Question 28

In what range is Smith's retirement benefit as of 12/31/2015?

- (A) Less than \$144,000
- (B) \$144,000 but less than \$152,000
- (C) \$152,000 but less than \$160,000
- (D) \$160,000 but less than \$168,000
- (E) \$168,000 or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 29 (1 point)

A multiemployer plan terminates in a mass withdrawal.

Consider the following statement:

A notice of mass withdrawal termination must be filed with the PBGC within 15 days of the mass withdrawal valuation date.

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)

Data for participant Smith:

| | |
|----------------------------|-----------|
| Date of birth | 1/1/1944 |
| Date of vested termination | 3/31/2015 |

Smith is not a 5% owner.

Consider the following statement:

Smith is required to begin receiving pension benefits no later than 4/1/2016.

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 (1 point)

Consider the following statement:

Benefit payments may not commence to any participant during the 60-day PBGC review period for a standard termination.

Question 31

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 32 (1 point)

A plan covers both salaried and hourly workers. The plan offers an insured death benefit to only the salaried workers.

Count of active participants for the plan:

| | |
|-------------------|---|
| HCE and salaried | 3 |
| HCE and hourly | 0 |
| NHCE and salaried | 8 |
| NHCE and hourly | 3 |

Consider the following statement:

The insured death benefit satisfies the current availability of benefits, rights, and features requirement under Regulation 1.401(a)(4)-4.

Question 32

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 33 (1 point)

After the due date, an enrolled actuary discovers that a PBGC comprehensive premium filing that the actuary signed has not been filed.

Consider the following statement:

The enrolled actuary must notify the PBGC and the plan administrator of the non-filing.

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 (1 point)

A plan allows for lump sum payments.

2014 AFTAP certified on 11/1/2014: 85%.

No other AFTAP certifications were made in 2014.

Smith, a terminated vested participant, has a full lump sum benefit of \$10,000.

Consider the following statement:

Smith can receive this lump sum benefit on 11/15/2014.

Question 34

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 35 (1 point)

A plan was frozen with no future benefit accruals as of 1/1/2005. The plan's 2014 AFTAP was 65%.

As of 4/1/2015, the plan's 2015 AFTAP has not been certified.

Consider the following statement:

The plan may purchase annuities on or after 4/1/2015 to settle some of the benefit liabilities.

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 (1 point)

Consider the following statement:

To correct a prohibited transaction, the prohibited transaction should be undone to the extent possible regardless of the resulting financial position of the plan.

Question 36

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 37 (1 point)

An actuary provides the plan administrator with a signed copy of the 2013 Schedule SB in a timely manner. Subsequently, the actuary discovered that the 2013 Schedule SB had not been included when the plan administrator submitted the 2013 Form 5500.

Consider the following statement:

The actuary is required to notify only the Internal Revenue Service that the Schedule SB was not filed.

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 (4 points)

Plan effective date: 1/1/2000.

The plan was amended to increase benefits effective 6/30/2015.

Valuation results as of 1/1/2015:

| | |
|---|-------------|
| Market value of assets | \$1,900,000 |
| Actuarial value of assets | 1,850,000 |
| Funding standard carryover balance | 0 |
| Prefunding balance | 100,000 |
| Funding target before amendment | 2,000,000 |
| Increase in funding target due to amendment | 500,000 |

Other information:

| | |
|-------------------------------------|----------|
| NHCE annuity purchases during 2014 | \$50,000 |
| HCE annuity purchases during 2014 | 60,000 |
| NHCE annuity purchases during 2013 | 40,000 |
| Effective rate of interest for 2015 | 6% |

The 2015 AFTAP was certified on 6/1/2015.

X = The IRC section 436 contribution that the plan sponsor must make on 6/30/2015 for the amendment to take effect.

Question 38

In what range is X ?

- (A) Less than \$145,000
- (B) \$145,000 but less than \$175,000
- (C) \$175,000 but less than \$205,000
- (D) \$205,000 but less than \$235,000
- (E) \$235,000 or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 39 (3 points)

An employer terminates a plan that covered all members of its workforce.

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

The plan was amended on the plan's termination date to provide a pro-rata benefit increase.

The plan transferred assets to a qualified replacement plan.

Selected data:

| | |
|---|-------------|
| Plan assets prior to distribution | \$3,300,000 |
| Benefit liabilities ignoring plan amendment | 1,500,000 |
| Benefit liability due to pro-rata benefit increase | 225,000 |
| Excise tax under IRC section 4980 payable on reversion of plan assets to the employer | 215,000 |

X = the amount of the asset transfer to the qualified replacement plan.

Question 39

In what range is X ?

- (A) Less than \$300,000
- (B) \$300,000 but less than \$600,000
- (C) \$600,000 but less than \$900,000
- (D) \$900,000 but less than \$1,200,000
- (E) \$1,200,000 or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 40 (1 point)

Selected data for participant Smith:

| | |
|--|---------|
| Age | 65 |
| Service | 15 |
| Average annual compensation for highest consecutive 3 years of service | \$7,500 |

Smith commences an annual benefit of \$8,000 payable as a straight life annuity beginning at age 65.

Consider the following statement:

Payment of this benefit to Smith does not violate IRC section 415 benefit limitations.

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 (5 points)

Selected plan provisions:

| | |
|--------------------------------------|--|
| Normal retirement eligibility | Age 65 |
| Early retirement eligibility | Age 62 with 25 years of service |
| Qualified joint and survivor annuity | Actuarially equivalent joint and 100% survivor |

Nondiscrimination testing methods and assumptions for the 2014 plan year:

| | |
|--------------------------|-------------------|
| Testing method | Benefits basis |
| Measurement period | Current plan year |
| Testing age | 65 |
| Interest rate | 8% |
| Pre-retirement mortality | None |

Selected factors and annuity values:

| <u>Age</u> | <u>Early retirement factor</u> | <u>Life annuity</u> | | <u>QJSA</u> | |
|------------|--------------------------------|---------------------|----------------------|-------------------|----------------------|
| | | <u>Plan basis</u> | <u>Testing basis</u> | <u>Plan basis</u> | <u>Testing basis</u> |
| 62 | 0.85 | 10.00 | 10.11 | 12.49 | 11.45 |
| 63 | 0.90 | 9.85 | 9.94 | 12.27 | 11.33 |
| 64 | 0.95 | 9.60 | 9.76 | 12.04 | 11.21 |
| 65 | 1.00 | 9.35 | 9.58 | 11.80 | 11.08 |

Data for participant Smith:

| | |
|----------------------------|-------------------|
| Date of birth | 12/31/1952 |
| Date of hire | 12/31/1986 |
| 12/31/2013 accrued benefit | \$29,000 per year |
| 12/31/2014 accrued benefit | \$32,000 per year |
| 2014 testing compensation | \$80,000 |

Question 41

In what range is Smith's most valuable accrual rate for 2014?

- (A) Less than 3.60%
- (B) 3.60% but less than 3.80%
- (C) 3.80% but less than 4.00%
- (D) 4.00% but less than 4.20%
- (E) 4.20% 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 (3 points)

An employer sponsors a defined benefit (DB) and a defined contribution (DC) plan.

Plan year for DB plan: 10/1 to 9/30.

Valuation date for DB plan: 10/1.

Plan year for DC plan: Calendar year.

Selected data:

| | <u>Key employees</u> | <u>Non-key employees</u> |
|--|----------------------|--------------------------|
| <u>Present value of accrued benefits</u> | | |
| DB plan as of 10/1/2013 | \$200,000 | \$100,000 |
| DB plan as of 10/1/2014 | 225,000 | 90,000 |
| DB plan as of 10/1/2015 | 190,000 | 160,000 |
| <u>Account balances</u> | | |
| DC plan as of 12/31/2013 | \$80,000 | \$50,000 |
| DC plan as of 12/31/2014 | 130,000 | 60,000 |
| DC plan as of 12/31/2015 | 150,000 | 70,000 |

Question 42

In what range is the top-heavy ratio that will be used to determine whether the defined contribution plan is top-heavy for 2015?

- (A) Less than 60%
- (B) 60% but less than 65%
- (C) 65% but less than 70%
- (D) 70% but less than 75%
- (E) 75% or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 43 (3 points)

- Valuation date: 12/31/2014.
- Normal retirement benefit: 1.5% of final 3-year average compensation times years of service.
- Plan vesting schedule: 100% vested after five years of service.
- Top-heavy vesting schedule: Six year graded.

The plan was determined to be top-heavy for 2009-2013, but is not top-heavy in 2014.

The plan provides the smallest top-heavy benefit allowable.

Data for non-key participant Smith:

Date of hire 1/1/2009

| <u>Year</u> | <u>Compensation</u> |
|-------------|---------------------|
| 2009 | \$80,000 |
| 2010 | 85,000 |
| 2011 | 95,000 |
| 2012 | 85,000 |
| 2013 | 95,000 |
| 2014 | 100,000 |

Question 43

In what range is Smith's largest possible annual vested accrued benefit as of 12/31/2014?

- (A) Less than \$8,500
- (B) \$8,500 but less than \$9,000
- (C) \$9,000 but less than \$9,500
- (D) \$9,500 but less than \$10,000
- (E) \$10,000 or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 44 (1 point)

As of the 2014 valuation date, the benefits for key employees were valued at \$615,000 and the total value of benefits for all participants was \$1,005,000.

There has been never been a distribution from the plan.

Consider the following statement:

The plan is top-heavy for the 2015 plan year.

Question 44

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 45 (1 point)

A plan is exempt from having to pay the PBGC Variable-rate Premium.

Consider the following statement:

The plan's enrolled actuary does not need to certify the PBGC premium filing.

Question 45

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 46 (2 points)

A plan failed to pay all minimum required distributions for the period 2013 through 2015.

| | <u>Minimum required distribution</u> | <u>Actual distributions</u> |
|------|--------------------------------------|-----------------------------|
| 2013 | \$30,000 | \$15,000 |
| 2014 | 35,000 | 20,000 |
| 2015 | 40,000 | 20,000 |

All applicable excise taxes were paid timely.

No waiver of excise tax was requested for any year.

Question 46

In what range is the total of the excise taxes for all three years?

- (A) Less than \$12,000
- (B) \$12,000 but less than \$24,000
- (C) \$24,000 but less than \$36,000
- (D) \$36,000 but less than \$48,000
- (E) \$48,000 or more

USE THIS PAGE FOR YOUR SCRATCH WORK

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

Data for Question 47 (2 points)

For which of the following could an enrolled actuary have his enrollment terminated?

- I. The enrolled actuary is convicted of fraud for a matter that is not related to their work in the actuarial field.
- II. After providing an annual actuarial report for a defined benefit plan, the client submits an appropriate request for additional explanation of the page that shows the calculation of the minimum required contribution. The actuary refuses to provide this explanation.
- III. A plan sponsor requests a copy of all electronic correspondence between the enrolled actuary and the sponsor's representatives. The actuary refuses to comply with the request.

Question 47

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.

****END OF EXAMINATION****

USE THIS PAGE FOR YOUR SCRATCH WORK

USE THIS PAGE FOR YOUR SCRATCH WORK