

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, 2020

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, 2019.
  - This examination consists of 49 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 2020**  
**August 21, 2020**

<b>Question</b>	<b>Answer</b>		<b>Question</b>	<b>Answer</b>
1	B		31	C
2	A		32	D
3	B		33	D
4	B		34	E
5	B		35	B
6	A		36	D
7	B		37	E
8	B		38	D
9	A		39	D
10	B		40	B
11	A		41	C
12	B		42	D
13	A		43	B
14	B		44	D
15	B		45	D
16	A		46	B
17	A		47	D
18	B		48	C
19	A		49	B
20	A			
21	B			
22	A			
23	B			
24	E			
25	B			
26	C			
27	E			
28	C			
29	A			
30	B & D*			

\*Due to the ambiguity of the question, credit was also given for answer D

Data for Question 1 (1 point)

A plan has 79 participants as of 12/31/2019. It has 121 participants as of 1/1/2020.

The plan has no non-qualifying assets.

Consider the following statement:

Form 5500-SF may be filed for the 2020 plan year.

Question 1

Is the above statement true or false?

(A) True

(B) False

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Data for Question 2 (2 points)

An employer sponsors a plan.

On 1/1/2019, the employer borrows \$100,000 from the plan. The promissory note requires repayment at the end of 2019 with 8% interest. The fair market interest rate for 2019 is 6%. The promissory note was completely paid on 12/31/2019.

Consider the following statement:

The excise tax for 2019 is \$1,200.

Question 2

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 3 (1 point)

A plan's benefit formula takes permitted disparity into account in a manner that satisfies IRC section 401(l).

Consider the following statement:

Safe harbor provisions of IRC section 401(a)(4) may not be relied upon to determine if the benefits provided under the plan are nondiscriminatory.

Question 3

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 4 (2 points)

Selected data for the plan:

Non-excludable HCEs	10
Non-excludable NHCEs	30
Non-excludable HCEs benefiting	8
Non-excludable NHCEs benefiting	15

Consider the following statement:

The plan satisfies the ratio percentage test of IRC section 410(b).

Question 4

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 5 (1 point)

A plan's NHCE concentration percentage is 86.67%.

Consider the following statement:

The plan's unsafe harbor percentage is 20%.

Question 5

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 6 (1 point)

A plan's normal retirement date is the first day of the month following the date the participant reaches normal retirement age.

Consider the following statement:

A participant's benefit under the plan must become nonforfeitable once he attains his normal retirement age.

Question 6

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 7 (1 point)

A plan's normal retirement age is 62.

Smith became a participant at age 50. Smith terminated at age 64.

The plan states that unless Smith elects otherwise, payment of benefits to Smith will begin no later than the 60<sup>th</sup> day after the close of the plan year in which Smith 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 7

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 8 (1 point)

Plan valuation date: 1/1/2019

The Small Plan Lookback Rule applies.

The plan is not a New or Newly Covered Plan.

Consider the following statement:

For purposes of determining the 2019 PBGC premium, the benefits reflected in the PBGC premium funding target are equal to the vested portion of benefits included in the 2019 funding target.

Question 8

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 9 (1 point)

Smith, an active participant, has an accrued benefit of \$18 per month and is 0% vested as of the PBGC premium Participant Count Date.

Consider the following statement:

Smith must be counted as a participant for purposes of determining the PBGC flat-rate premium.

Question 9

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 10 (1 point)

A plan is undergoing a standard termination.

Consider the following statement:

For any unresponsive participant with a benefit less than a mandatory cash-out threshold, the plan may transfer the benefit to an IRA.

Question 10

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 11 (1 point)

A plan is undergoing a standard termination.

A post-distribution certification consisting of PBGC Form 501 is filed 89 days after the last distribution to satisfy participant benefits.

Consider the following statement:

Absent an extension, the post-distribution certification was filed late.

Question 11

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 12 (1 point)

Employer A has been contributing to a multiemployer plan since 1980. Employer A completely withdrew from the plan during 2019.

Consider the following statement:

The required annual withdrawal liability payment for Employer A is based on the product of (a) Employer A's average contribution base units during the highest 3 consecutive years during the past 10 years, and (b) Employer A's highest contribution rate during the past 10 years, with both determined over the 10-year period ending in 2018.

Question 12

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 13 (1 point)

Employer A completely withdrew from a multiemployer plan during 2017 pursuant to an agreement or arrangement to withdraw.

The initial withdrawal liability allocation to Employer A is limited due to the application of the *de minimis* rule for withdrawal liability calculations.

The plan experienced a mass withdrawal during 2019.

Consider the following statement:

As a result of the mass withdrawal, the initial withdrawal liability allocation to Employer A will no longer be limited by the *de minimis* rule.

Question 13

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 14 (1 point)

A plan is undergoing a standard termination.

The plan specifies that all excess assets shall revert to the employer.

Consider the following statement:

The excise tax on the amount of asset reversion from the plan is 20%.

Question 14

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 15 (1 point)

A fiduciary is selecting an insurance company for purposes of purchasing an annuity to settle all of the plan's liabilities.

The fiduciary has narrowed down the search to Company A and Company B.

The fiduciary has concluded that, of the two potential annuity providers, only Company A meets the "safest available annuity" criterion.

Consider the following statement:

The fiduciary may select Company B solely because the plan has insufficient assets to select Company A.

Question 15

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 16 (1 point)

On 9/1/2019, a party in interest for Plan A borrows \$100,000 from Plan A to expand its services. The party in interest repays the loan on 12/31/2019 with interest at the prevailing market rate.

Consider the following statement:

A prohibited transaction has occurred.

Question 16

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 17 (1 point)

An enrolled actuary is advising a client on a document related to the pension plan to be filed with the Department of Labor. While reviewing the document, the enrolled actuary discovers that some of the information appears to be inconsistent with an important fact known to the enrolled actuary. The document does not need to be signed by the enrolled actuary and inquiring with the client about the inconsistency will likely result in missing the filing deadline.

Consider the following statement:

The enrolled actuary must inquire about the inconsistent information.

Question 17

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 18 (1 point)

The plan sponsor of a defined benefit plan contributes the full amount of the increase in the funding target attributable to an amendment.

Consider the following statement:

The enrolled actuary is required to recertify the plan's AFTAP.

Question 18

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 19 (1 point)

A plan's AFTAP is less than 60%, and accelerated benefit payments are restricted. Smith terminates employment.

The plan provides mandatory lump sum distributions for benefits with an IRC section 417(e) present value that does not exceed \$5,000.

The lump sum value of Smith's benefit at termination of employment is \$4,500.

Consider the following statement:

Smith can receive this lump sum at termination of employment.

Question 19

Is the above statement true or false?

(A) True

(B) False

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Data for Question 20 (1 point)

Plan effective date: 1/1/2009

Consider the following statement:

The IRC section 415 compensation limit is determined reflecting IRC section 401(a)(17).

Question 20

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 21 (1 point)

An employer sponsors a defined benefit plan and a defined contribution plan.

All key employees participate in both plans.

All non-key employees participate in the defined contribution plan. Only some non-key employees participate in the defined benefit plan.

The plans are top-heavy. Top-heavy benefits are satisfied in the defined contribution plan.

Consider the following statement:

The defined contribution plan is required to provide the 5% safe harbor top-heavy minimum contribution to all non-key employees.

Question 21

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 22 (1 point)

Benefit formula: 2% for each year of service times average compensation

Average compensation: Highest 5 consecutive years of compensation

Normal form of annuity: 10 years certain and life

The plan has always been top-heavy.

Consider the following statement:

The benefit formula provides at least the minimum benefit required for a top-heavy plan.

Question 22

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 23 (1 point)

Proposed vesting schedule for a Plan:

<u>Years of service</u>	<u>Vesting percentage</u>
1	15%
2	30%
3	45%
4	60%
5	75%
6 or more	100%

Consider the following statement:

This vesting schedule meets the vesting rules for top-heavy plans.

Question 23

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 24 (1 point)

A plan is adopted 12/31/2018 with an effective date of 1/1/2019.

A new participant enters the plan on 1/1/2019.

There are no subsequent amendments to the plan.

$X$  = the maximum number of days after 1/1/2019 by which the participant must receive a Summary Plan Description.

Question 24

In what range is  $X$ ?

- (A) Less than 70
- (B) 70 but less than 85
- (C) 85 but less than 100
- (D) 100 but less than 115
- (E) 115 or more

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Data for Question 25 (1 point)

A plan having both active and inactive participants is amended to freeze benefit accruals.

Consider the following statement:

All plan participants must receive an ERISA section 204(h) notice.

Question 25

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 26 (5 points)

Selected plan provisions:

Normal retirement age	65
Early retirement age	62
Early retirement benefit	Accrued benefit reduced 2.0% per year from age 65
Normal form of benefit	Life annuity
Qualified joint and survivor annuity	Joint and 75% survivor annuity
Conversion to optional forms of payment	Actuarial equivalence

Nondiscrimination testing method and assumptions for 2019 plan year:

Method	Benefit basis
Measurement period	Current plan year
Testing age	65
Standard interest rate	8.0%
Testing compensation	Average annual compensation

Selected annuity values:

<u>Age</u>	<u>Life annuity</u>		<u>Joint and 75% survivor annuity</u>	
	<u>Plan assumptions</u>	<u>Testing assumptions</u>	<u>Plan assumptions</u>	<u>Testing assumptions</u>
62	12.68	8.76	13.70	9.52
63	12.39	8.56	13.43	9.34
64	12.09	8.35	13.14	9.15
65	11.79	8.14	12.86	8.95

Selected data for active participant Smith:

Age as of 12/31/2019	63
Spouse's age as of 12/31/2019	63
Average annual compensation	\$50,000
2019 compensation	60,000
12/31/2018 accrued benefit	19,000
12/31/2019 accrued benefit	20,000

Question 26

In what range is Smith's most valuable accrual rate as of 12/31/2019?

- (A) Less than 2.21%
- (B) 2.21% but less than 2.36%
- (C) 2.36% but less than 2.51%
- (D) 2.51% but less than 2.66%
- (E) 2.66% or more

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Data for Question 27 (2 points)

An employer sponsors three plans: Plan A for Division A, Plan B for Division B, and Plan C for Division C.

Plan A eligibility: Immediate

Plan B eligibility: 1,000 hours of service

Plan C eligibility: Age 21 and 1 year of service

	<u>Division A</u>	<u>Division B</u>	<u>Division C</u>
Eligible employees	32	57	102
Employees not yet eligible	0	8	14

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

Question 27

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

- (A) Less than 184
- (B) 184 but less than 192
- (C) 192 but less than 200
- (D) 200 but less than 208
- (E) 208 or more

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Data for Question 28 (3 points)

A plan's participation requirement is one year of service.

Selected data for all employees of the employer:

<u>Number of employees</u>	<u>Service</u>	<u>Collectively bargained employee</u>	<u>Accruing a benefit in the plan</u>	<u>HCE?</u>
1	Less than 1 year	Yes	N/A	No
3	Less than 1 year	No	N/A	No
6	More than 1 year	No	No	No
3	More than 1 year	Yes	Yes	No
22	More than 1 year	No	Yes	No
1	More than 1 year	No	No	Yes
4	More than 1 year	No	Yes	Yes

Question 28

In what range is the plan's ratio percentage under IRC section 410(b)?

- (A) Less than 80%
- (B) 80% but less than 90%
- (C) 90% but less than 100%
- (D) 100% but less than 110%
- (E) 110% or more

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Data for Question 29 (3 points)

A company sponsors a plan.

Number of employees as of 1/1/2020:

HCEs not covered by the plan	1
HCEs covered and benefiting under the plan	2
NHCEs	37

$X$  = Minimum number of NHCEs who must benefit under the plan in order to pass the ratio percentage test of IRC section 410(b).

$Y$  = Minimum number of employees receiving meaningful benefit accruals under the plan in order to satisfy the minimum participation requirement of IRC section 401(a)(26).

Question 29

In what range is  $X + Y$ ?

- (A) Fewer than 35
- (B) 35 but fewer than 38
- (C) 38 but fewer than 41
- (D) 41 but fewer than 44
- (E) 44 or more

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Data for Question 30 (3 points)

Monthly normal retirement benefit: 1% of final 3-year average compensation for each year of service

Early retirement eligibility: Age 55 with 10 years of service

Early retirement benefit: Accrued benefit reduced 3.0% per year prior to age 65

Data for participant Smith:

Date of birth	1/1/1963
Spouse's date of birth	1/1/1970
Date of hire	1/1/1988
Compensation for each year	\$85,000

At the time of his death, 1/1/2020, Smith was still employed and had been married to his current spouse for over one year.

Plan conversion factors at all ages:

<u>Optional forms of payment</u>	<u>Plan conversion factor from life annuity</u>
Joint and 50% survivor annuity	0.90
Joint and 75% survivor annuity (QJSA)	0.86
Joint and 100% survivor annuity	0.82

Question 30

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

- (A) Less than \$11,000
- (B) \$11,000 but less than \$13,500
- (C) \$13,500 but less than \$16,000
- (D) \$16,000 but less than \$18,500
- (E) \$18,500 or more

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Data for Question 31 (2 points)

A plan does not pay lump sums.

Selected information for participant Smith:

Age at marriage	25
Age at termination	48
Age at death	49
Spouse's age at Smith's death	46
Vested percentage	100%

Smith had not yet begun receiving benefits on his date of death.

Consider the following:

- I. Smith's spouse will receive a qualified joint and survivor annuity.
- II. Smith's survivor annuity must be at least 50% of the participant's accrued benefit.
- III. Smith's spouse is entitled to a qualified preretirement survivor annuity.
- IV. If Smith's spouse remarries prior to age 55, any survivor annuity would no longer be payable.

Question 31

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

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

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Data for Question 32 (4 points)

Normal retirement benefit: 75% times highest 3-year consecutive average compensation

Late retirement benefit: the greater of the formula benefit and the actuarial equivalent of the prior year's benefit

Actuarial equivalence:

Interest rate	5.0%
Pre-retirement mortality	None

Selected monthly annuity factors, using plan's actuarial equivalence assumptions:

$\ddot{a}_{65}^{(12)}$	11.794
$\ddot{a}_{66}^{(12)}$	11.493
$\ddot{a}_{67}^{(12)}$	11.191
$\ddot{a}_{68}^{(12)}$	10.886

Data for participant Smith:

Date of birth	12/31/1951
Date of hire	1/1/2010

<u>Year</u>	<u>Compensation</u>	<u>Year</u>	<u>Compensation</u>
2010	\$50,000	2015	\$75,000
2011	50,000	2016	85,000
2012	50,000	2017	95,000
2013	90,000	2018	75,000
2014	70,000	2019	55,000

$\$X$  = Smith's annual benefit at 1/1/2020.

Question 32

In what range is  $\$X$ ?

- (A) Less than \$68,000
- (B) \$68,000 but less than \$71,000
- (C) \$71,000 but less than \$74,000
- (D) \$74,000 but less than \$77,000
- (E) \$77,000 or more

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Data for Question 33 (2 points)

Plan effective date: 1/1/2009

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

Data for participant Smith:

Date of birth	1/1/1993
Date of hire	1/1/2010
Date of termination	12/31/2013
Date of rehire	1/1/2017

Question 33

In what range is Smith's vesting percentage as of 1/1/2020?

- (A) Less than 40%
- (B) 40% but less than 60%
- (C) 60% but less than 80%
- (D) 80% but less than 100%
- (E) 100%

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Data for Question 34 (4 points)

Selected data as of 12/31/2019 for 2020 PBGC premium determination:

Vested active participants	24
Non-vested active participants	4
Non-participating employees	8
Retirees	10
Beneficiaries	0
Alternate payees of deceased participants	1

There have been no terminations during 2019.

The plan opted out of the Small Plan Lookback Rule.

Selected data as of 1/1/2020:

Market value of assets	\$415,000
Actuarial value of assets	430,000
Vested funding target using stabilized segment rates	600,000
Vested funding target using segment rates without stabilization	800,000

$\$X$  = the 2020 PBGC total premium using the Alternative Premium Funding Target for 2020.

Question 34

In what range is  $\$X$ ?

- (A) Less than \$13,100
- (B) \$13,100 but less than \$15,400
- (C) \$15,400 but less than \$17,700
- (D) \$17,700 but less than \$20,000
- (E) \$20,000 or more

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Data for Question 35 (3 points)

Selected information for the 2020 PBGC premium determination:

Number of participants as of 12/31/2019	84
Number of employees on 1/1/2019	35
Number of employees on 1/1/2020	20
PBGC premium funding target as of 1/1/2019	\$4,500,000
Market value of assets as of 1/1/2019	3,500,000
Actuarial value of assets as of 1/1/2019	3,800,000
Small Plan Lookback Rule	Applies

Question 35

In what range is the 2020 PBGC total premium?

- (A) Less than \$39,000
- (B) \$39,000 but less than \$43,000
- (C) \$43,000 but less than \$47,000
- (D) \$47,000 but less than \$51,000
- (E) \$51,000 or more

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Data for Question 36 (4 points)

Selected plan information:

Original benefit formula	\$160 per month for each year of service
Normal form of payment	Life annuity
Early retirement eligibility	Age 60 with 10 years of service
Early retirement benefit	Accrued benefit reduced by 3% per year before normal retirement age

The plan formula was amended on 1/1/2015 to \$170 per month for all years of service.

The plan terminated in a distress termination on 1/1/2019.

Data for participant Smith:

Date of birth	1/1/1954
Date of hire	1/1/1988
Date of retirement	1/1/2018
Form of payment elected	Life annuity

$\$X$  = Smith's priority category 4 monthly benefits under ERISA section 4044.

$\$Y$  = Smith's priority category 3 monthly benefits under ERISA section 4044.

Question 36

In what range is  $\$X - \$Y$ ?

- (A) Less than \$550
- (B) \$550 but less than \$650
- (C) \$650 but less than \$750
- (D) \$750 but less than \$850
- (E) \$850 or more

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Data for Question 37 (5 points)

Type of plan: Multiemployer

Valuation interest rate: 6.5%

Method for withdrawal liability: Rolling-5

Method for allocation of Affected Benefits: PBGC Technical Update 10-3

There have been no increases in any employer's contribution rate since 2014.

The plan reduced adjustable benefits in both 2017 and 2018 as part of a 2017 rehabilitation plan.

Value of Affected Benefits as of 12/31/2017: \$1,500,000

Value of additional Affected Benefits as of 12/31/2018: \$400,000

Employer A completely withdraws from the plan on 12/1/2020.

Employer A is the first employer to have withdrawn from the plan.

<u>Year</u>	<u>Employer A contributions</u>	<u>Total contributions</u>	<u>Total 12/31 unfunded vested benefits excluding Affected Benefits</u>
2015	\$500,000	\$8,000,000	
2016	450,000	9,000,000	
2017	400,000	9,500,000	
2018	350,000	9,500,000	
2019	300,000	9,000,000	\$30,000,000
2020	150,000	8,800,000	32,000,000

Question 37

In what range is the withdrawal liability for Employer A?

- (A) Less than \$1,260,000
- (B) \$1,260,000 but less than \$1,310,000
- (C) \$1,310,000 but less than \$1,360,000
- (D) \$1,360,000 but less than \$1,410,000
- (E) \$1,410,000 or more

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Data for Question 38 (3 points)

Type of plan: Multiemployer

Method for withdrawal liability: Rolling-5

Employer A completely withdraws from the plan on 12/1/2017 and is the first employer to withdraw from the plan.

The outstanding withdrawal liability claims expected to be collected as of 12/31/2018 is equal to 75% of the withdrawal liability assessment to Employer A.

Employer B completely withdraws from the plan on 1/5/2019 and is the second employer to withdraw from the plan.

<u>Date</u>	<u>Total plan unfunded vested benefits</u>	<u>5-year sum of contributions</u>		
		<u>Employer A</u>	<u>Employer B</u>	<u>All other employers</u>
12/31/2016	\$5,000,000	\$2,525,000	\$3,275,000	\$14,550,000
12/31/2017	7,000,000	2,300,000	3,150,000	14,500,000
12/31/2018	8,000,000	1,800,000	2,800,000	14,300,000

Question 38

In what range is the withdrawal liability for Employer B?

- (A) Less than \$1,000,000
- (B) \$1,000,000 but less than \$1,100,000
- (C) \$1,100,000 but less than \$1,200,000
- (D) \$1,200,000 but less than \$1,300,000
- (E) \$1,300,000 or more

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Data for Question 39 (2 points)

Consider the following actions:

- I. Use of plan funds by the spouse of a plan's trustee
- II. A participant loan to the plan administrator under more favorable terms than to other participants
- III. A plan sells a house to the plan sponsor

Question 39

Which, if any, of the above actions is (are) prohibited transactions?

- (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 40 (2 points)

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

- I. In anticipation of potential conflicts of interest, an actuary can include in his letter of engagement a provision that allows the client to prospectively waive future conflicts of interest.
- II. The actuary must decline an assignment if, in the process of obtaining informed consent from one client to waive a conflict of interest, disclosing the conflict of interest would be detrimental to another client.
- III. The actuary may accept assignments from his clients even if there is a significant risk that the representation of one client will be materially limited by the actuary's responsibility to another client.

Question 40

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 41 (3 points)

On 3/15/2019, the enrolled actuary certifies the AFTAP as of 1/1/2019.

On 7/1/2019, the plan sponsor amends the plan to increase benefits.

Information as of 1/1/2019:

Funding balances	\$50,000
Actuarial value of plan assets	3,350,000
Annuity purchases for NHCEs in prior two years	200,000
Annuity purchases for HCEs in prior two years	0
Funding target prior to plan amendment	4,100,000
Increase in funding target due to the plan amendment	800,000
Effective interest rate	6.00%

The plan sponsor has chosen to make an IRC section 436 contribution on 7/1/2019 to allow the amendment to take effect. There are no other contributions made during 2019.

Question 41

In what range is the IRC section 436 contribution?

- (A) Less than \$550,000
- (B) \$550,000 but less than \$585,000
- (C) \$585,000 but less than \$620,000
- (D) \$620,000 but less than \$655,000
- (E) \$655,000 or more

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Data for Question 42 (3 points)

Plan effective date: 1/1/2014

The plan was amended to increase benefits on 6/30/2019.

Select information as of 1/1/2019:

Actuarial value of assets	\$1,851,299
Funding standard carryover balance	0
Prefunding balance	102,188
Funding target before amendment	2,054,878
Funding target after amendment	2,489,178
Segment rates	{4.33%, 5.28%, 6.74%}

The plan's effective interest rate for the 2019 plan year has not yet been determined.

	<u>Total</u>	<u>HCE</u>
Annuity purchases during 2017	\$50,455	\$10,128
Annuity purchases during 2018	59,786	51,298

The 2019 AFTAP was certified on 3/1/2019.

**\$X** = IRC section 436 contribution that the plan sponsor must make on 6/30/2019 for the amendment to take effect.

Question 42

In what range is **\$X**?

- (A) Less than \$230,000
- (B) \$230,000 but less than \$235,000
- (C) \$235,000 but less than \$240,000
- (D) \$240,000 but less than \$245,000
- (E) \$245,000 or more

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Data for Question 43 (2 points)

Selected plan data as of 1/1/2020:

Funding standard carryover balance	\$125,000
Prefunding balance	50,000
Actuarial value of assets	1,025,000
Funding target	1,000,000

There have never been annuity purchases from the plan.

Consider the following statement:

The plan's 2020 AFTAP is 85.00%.

Question 43

Is the above statement true or false?

- (A) True
- (B) False

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Data for Question 44 (4 points)

Plan entry requirement: Age 21 and 1 year of service

Normal retirement age: 62

Normal retirement benefit:

Effective 1/1/2019, 57.5% times highest consecutive 3-year average compensation

Effective 1/1/2020, 58.5% times highest consecutive 3-year average compensation

The plan suspends benefits and timely provides all required suspension of benefit notices.

Data for participant Smith:

Date of birth 1/1/1957

Date of hire 1/1/2012

<u>Year</u>	<u>Compensation</u>
2012	\$200,000
2013	200,000
2014	265,000
2015	270,000
2016	200,000
2017	247,000
2018	285,000
2019	198,000

$\$X$  = Smith's annual accrued benefit payable as of 1/1/2020.

$\$Y$  = Smith's annual accrued benefit payable as of 1/1/2019.

Question 44

In what range is  $\$X - \$Y$ ?

- (A) Less than \$2,000
- (B) \$2,000 but less than \$4,000
- (C) \$4,000 but less than \$6,000
- (D) \$6,000 but less than \$8,000
- (E) \$8,000 or more

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Data for Question 45 (4 points)

Plan effective date: 1/1/2002

Plan formula: 14% of the average of the highest 3 years of compensation for each year of service

Normal retirement age: 62

Selected data for participant Smith:

Date of birth	12/31/1957
Date of hire	12/31/2010
Date of retirement	12/31/2019

<u>Year</u>	<u>Compensation</u>
2011	\$84,000
2012	99,000
2013	148,000
2014	159,000
2015	171,000
2016	165,000
2017	156,000
2018	177,000
2019	200,000

$\$X$  = Smith's benefit under the plan formula as of 12/31/2019 before applying IRC section 415 limits.

$\$Y$  = Smith's actual accrued benefit as of 12/31/2019.

Question 45

In what range is  $\$X - \$Y$ ?

- (A) Less than \$57,000
- (B) \$57,000 but less than \$63,000
- (C) \$63,000 but less than \$69,000
- (D) \$69,000 but less than \$75,000
- (E) \$75,000 or more

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Data for Question 46 (3 points)

Valuation date: 12/31/2019

Normal retirement benefit formula: 1.35% of final 3-year average compensation for each year of service

Plan vesting schedule: 100% vested after five years of service

Top-heavy vesting schedule: Six-year graded

The plan provides the lowest top-heavy minimum benefit required.

Data for non-key participant Smith:

Date of hire 1/1/2015

<u>Year</u>	<u>Compensation</u>
2015	\$60,000
2016	68,000
2017	70,000
2018	75,000
2019	76,000

The plan was determined to be top-heavy for 2015 through 2018 but is not top-heavy in 2019.

Question 46

In what range is Smith's annual vested accrued benefit as of 12/31/2019?

- (A) Less than \$5,300
- (B) \$5,300 but less than \$5,700
- (C) \$5,700 but less than \$6,100
- (D) \$6,100 but less than \$6,500
- (E) \$6,500 or more

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Data for Question 47 (3 points)

Company A sponsors both a defined benefit plan and a profit sharing plan. Key employees participate in both plans.

The plans are top-heavy.

The defined benefit plan covers only salaried employees. The profit-sharing plan covers both salaried and hourly employees. The plan documents stipulate that only the profit-sharing plan will provide the top-heavy minimum benefit to non-key employees.

Selected data for the following participants:

<u>Participant</u>	<u>Job classification</u>	<u>Key</u>	<u>Annual compensation</u>
Smith	Salaried and NHCE	Non-key	\$38,000
Jones	Hourly and NHCE	Non-key	23,000
Green	Hourly and HCE	Non-key	290,000
Brown	Salaried	Key	350,000

$\$X$  = Total top-heavy minimum profit sharing contribution attributed to the four participants for 2019.

Question 47

In what range is  $\$X$ ?

- (A) Less than \$5,900
- (B) \$5,900 but less than \$8,200
- (C) \$8,200 but less than \$10,500
- (D) \$10,500 but less than \$12,800
- (E) \$12,800 or more

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Data for Question 48 (3 points)

Valuation date: 12/31/2019

Normal retirement benefit formula: 1.0% of final 3-year average compensation for each year of service

The plan provides the minimum top-heavy benefit required under IRC section 416.

Data for non-key participant Smith:

Date of birth 1/1/1959  
Date of hire 1/1/2006

<u>Year</u>	<u>Compensation</u>
2006	\$50,000
2007	55,000
2008	60,000
2009	62,000
2010	65,000
2011	68,000
2012	72,000
2013	75,000
2014	75,000
2015	65,000
2016	75,000
2017	68,000
2018	90,000
2019	90,000

The plan was determined to be top-heavy years 2006 through 2017. The plan is not top-heavy for 2018 and 2019.

Question 48

In what range is Smith's annual accrued benefit as of 12/31/2019?

- (A) Less than \$13,280
- (B) \$13,280 but less than \$14,370
- (C) \$14,370 but less than \$15,460
- (D) \$15,460 but less than \$16,550
- (E) \$16,550 or more

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Data for Question 49 (1 point)

Participant Smith retires at age 62 with five years of service.

Smith's highest consecutive 3-year average annual compensation at retirement is \$9,000.

Consider the following statement:

Smith's IRC section 415 annual benefit limitation is \$4,500.

Question 49

Is the above statement true or false?

- (A) True
- (B) False

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

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