

AMERICAN SOCIETY OF ENROLLED ACTUARIES
JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES
SOCIETY OF ACTUARIES

Enrolled Actuaries Pension Examination, Segment L

EA-2, Segment L

Date: Wednesday, May 12, 2021

INSTRUCTIONS TO CANDIDATES

1. Special conditions generally applicable to all questions on this examination are found in a separate .PDF on the computer screen.
2. All questions should be answered in accordance with laws, rules and regulations in effect as of November 30, 2020.
3. This examination consists of 43 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.
4. 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.
5. Do not spend too much time on any one question. If a question seems too difficult, leave it and go on.
6. 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 computer screen.
7. Use the scratch paper booklets provided by Prometric for your scratch work. Extra scratch paper booklets are available if you run out of scratch paper in the booklet provided to you.

Answer Key EA-2L Spring 2021
February 15, 2021

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

Announcement to be sent by the Society of Actuaries to the May 2021 EA-2 (Segment L) examination candidates and read by examination proctors prior to administering that examination:

(For purposes of the examinations, all provisions of the American Rescue Plan Act of 2021 should be ignored. In addition, all temporary relief due to COVID-19, including (but not limited to) extensions on contribution and filing deadlines, are to be ignored. This includes the provisions of the CARES Act, temporary relief under the SECURE Act, and related Treasury, Department of Labor (DOL), and Pension Benefit Guaranty Corporation (PBGC) pronouncements. This is consistent with the general condition that IRS, Treasury, DOL, and PBGC releases granting disaster relief should be ignored.)

Data for Question 1 (1 point)

An employer sponsors three defined benefit plans for employees in a controlled group.

Valuation results as of 1/1/2021:

	<u>Plan A</u>	<u>Plan B</u>	<u>Plan C</u>
Funding target	\$850,000,000	\$950,000,000	\$50,000,000
Actuarial value of assets	870,000,000	890,000,000	45,000,000

Consider the following statement:

The plan sponsor is required to provide a copy of the Annual Funding Notice for all three plans to the PBGC for the 2021 notice year.

Question 1

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 2 (1 point)

Company A and Company B are members of a controlled group.

Company A is a contributing sponsor of a plan.

Company B is not a contributing sponsor of the plan.

Company B is sold to Company C, which is not a member of the controlled group.

Consider the following statement:

A reportable event has occurred because of the sale of Company B.

Question 2

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 3 (1 point)

Consider the following statement:

A plan that benefits only highly compensated employees will automatically pass the IRC section 410(b) coverage requirements.

Question 3

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 4 (1 point)

All participants in a plan are non-highly compensated employees.

For the 30 participants in Group A, their benefit is 10% of average compensation per year of service.

For the 50 participants in Group B, their benefit is 3% of average compensation per year of service.

Consider the following statement:

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

Question 4

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 5 (1 point)

A plan provides a 50% qualified joint and survivor annuity that is the actuarial equivalent of a single annuity for the life of the participant.

Consider the following statement:

The plan must offer a 100% qualified optional survivor annuity.

Question 5

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 6 (1 point)

Consider the following statement:

A failure to pay a PBGC premium results in a plan's loss of PBGC coverage.

Question 6

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 7 (1 point)

Consider the following statement:

The PBGC Form 500 and Form 600 for standard and distress terminations, respectively, are due to the PBGC on or before 120 days after the proposed termination date.

Question 7

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 8 (2 points)

A plan was terminated as of 12/31/2020.

The plan provides that upon termination any excess assets will revert to the employer.

After all benefit liabilities have been satisfied, the plan has \$150,000 in excess assets.

The plan is amended to allow excess assets to be transferred to a qualified replacement plan.

The replacement plan meets the demographic requirements of IRC section 4980.

In 2021, the plan transfers \$100,000 to the qualified replacement plan.

Consider the following statement:

The employer must pay an excise tax of \$10,000 due to excess assets reverting to the plan sponsor.

Question 8

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 9 (1 point)

Consider the following statement:

In a multiemployer plan, a benefit or benefit increase that has been in effect for fewer than 60 months is not guaranteed by the PBGC.

Question 9

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 10 (1 point)

A multiemployer plan is using the presumptive method for purposes of calculating withdrawal liability.

Consider the following statement:

Employee contributions, if any, are included in both the numerator and denominator of the allocation fraction used to determine an employer's withdrawal liability.

Question 10

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 11 (1 point)

Smith is a full-time paid employee of a company and is a fiduciary of a plan sponsored by the company.

Consider the following statement:

Smith may receive reasonable compensation from the plan for services rendered to the plan.

Question 11

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 12 (1 point)

Consider the following statement:

An enrolled actuary who is not currently under suspension or disbarment from practice before the IRS may practice before the IRS with respect to plan qualification issues provided that the enrolled actuary files with the IRS a written declaration stating that he or she is currently qualified as an enrolled actuary and is authorized to represent the party or parties on whose behalf he or she acts.

Question 12

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 13 (1 point)

Consider the following statement:

An enrolled actuary must, at the request of a former client, promptly return any and all records of the client related to minimum funding requirement determinations, despite any pending dispute over unpaid fees.

Question 13

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 14 (1 point)

A plan's 2020 AFTAP is 89.00%.

A range certification is issued on 3/30/2021 that the 2021 AFTAP is at least 80%.

Consider the following statement:

The plan's enrolled actuary must issue the specific AFTAP by 9/30/2021 or the plan is subject to benefit restrictions in 2021.

Question 14

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 15 (1 point)

Consider the following statement:

For purposes of converting a benefit under IRC section 415 to a lump sum form of payment, the interest rate used is the greater of 5% or the interest rate specified in the plan.

Question 15

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 16 (1 point)

An employer sponsors a defined benefit plan and a profit sharing plan. The key employees benefit in only the defined benefit plan and have never benefited in the profit sharing plan. The defined benefit plan must be combined with the profit sharing plan in order to pass IRC section 410(b) coverage.

Consider the following statement:

The defined benefit plan and profit sharing plan form a required aggregation group for top-heavy purposes of IRC section 416.

Question 16

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 17 (2 points)

A plan always had more than 100 participants.

The plan sponsor failed to timely make a required quarterly installment.

Consider the following statements:

- I. All participants must be notified of the failure to timely make a required quarterly installment if the required quarterly installment is not made within 60 days of the quarterly installment due date.
- II. Notice to the PBGC is waived if the required quarterly installment is made within 60 days of the original due date.

Question 17

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

- (A) None
- (B) I only
- (C) II only
- (D) I and II

Data for Question 18 (3 points)

Current benefit formula:

Hourly employees	\$100 for each year of service
Salaried employees	\$120 for each year of service

Early retirement provisions:

Eligibility	Age 55
Early retirement reduction	3% for each year prior to age 65

Selected data for participant Smith:

Date of birth	1/1/1970
Employment status	Salaried

Consider the following events:

- I. The plan is amended effective 1/1/2020 so that the benefit formula for salaried employees is \$120 per year of service prior to 1/1/2020 plus \$125 per year of service after 12/31/2019.
- II. The plan is amended so that the early retirement reductions for benefits accrued on or after 1/1/2020 are changed to 5% per year prior to age 65.
- III. Smith's employment status is changed to hourly on 12/31/2019.

Question 18

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

- (A) None
- (B) I and II only
- (C) I and III only
- (D) II and III only
- (E) The correct answer is not given by (A), (B), (C), or (D) above

Data for Question 19 (2 points)

A plan is amended to significantly reduce future benefit accruals. The plan has 95 participants who have accrued benefits.

Consider the following statements regarding an ERISA section 204(h) notice:

- I. The notice must be provided to affected participants at least 45 days before the effective date of this amendment.
- II. If the plan is a multiemployer plan, the notice is not required.
- III. If the plan is collectively bargained, the notice is not required.

Question 19

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

- (A) None
- (B) I and II only
- (C) I and III only
- (D) II and III only
- (E) The correct answer is not given by (A), (B), (C), or (D) above

Data for Question 20 (4 points)

An employer sponsors two plans.

Salaried plan eligibility: Age 21 and 1 year of service

Hourly plan eligibility: Age 18 and 6 months of service

Selected headcounts for the 2021 plan year:

	<u>Salaried</u>		<u>Hourly</u>	
	<u>HCEs</u>	<u>NHCEs</u>	<u>HCEs</u>	<u>NHCEs</u>
At least age 21 with at least 1 year of service	30	80	3	275
At least age 21 with at least 6 months of service but less than 1 year of service	6	20	4	25
At least age 18 but less than age 21 with at least 6 months of service but less than 1 year of service	1	50	2	100
Under age 18 and/or with less than 6 months of service	3	25	1	350
Excluded by classification who are otherwise non-excludable	0	25	0	50
Total employees	40	200	10	800

The plan sponsor elects to aggregate the salaried and hourly plans for purposes of the coverage requirement of IRC section 410(b). Otherwise excludable employees are not tested separately.

Question 20

In what range is the ratio percentage for the 2021 plan year?

- (A) Less than 58%
- (B) 58% but less than 76%
- (C) 76% but less than 94%
- (D) 94% but less than 112%
- (E) 112% or more

Data for Question 21 (3 points)

During 2020, Smith was a participant in a defined benefit plan and a profit sharing plan that has employee deferrals and employer matching contributions.

Selected 2020 data for Smith:

Date of birth	1/1/1958
Date of hire	1/1/2001
Compensation	\$295,000
Defined benefit plan accrual	12,000
Vesting in defined benefit plan	100%
IRC section 401(k) salary deferrals	\$19,500
Employer matching contributions	11,400
Vesting in matching contributions	60%

Nondiscrimination testing methods and assumptions:

Snapshot date	12/31/2020
Interest rate for normalizing	7.5%
Selected annuity factor	$\ddot{a}_{65}^{(12)} = 11.19$

Question 21

In what range is Smith's benefit percentage determined on an equivalent allocation basis for the average benefits test?

- (A) Less than 45%
- (B) 45% but less than 47%
- (C) 47% but less than 49%
- (D) 49% but less than 51%
- (E) 51% or more

Data for Question 22 (3 points)

Early retirement eligibility: Age 55 and 10 years of service

Early retirement benefit: Accrued benefit reduced by 5% for each year prior to age 63

Selected data for participant Smith:

Date of birth	1/1/1960
Spouse's date of birth	1/1/1960
Date of hire	1/1/2012
Date of death	1/1/2021
Monthly accrued benefit at date of death	\$1,225

At the time of death, Smith had been married for more than one year.

The plan provides the minimum qualified pre-retirement survivor annuity allowed by law.

Plan conversion factors from life annuity at select ages:

<u>Optional forms of payment</u>	<u>Age 61</u>	<u>Age 62</u>	<u>Age 63</u>	<u>Age 65</u>
Joint and 50% survivor annuity (QJSA)	0.896	0.881	0.875	0.868
Joint and 100% survivor annuity	0.820	0.811	0.802	0.794

$\$X$ = the monthly qualified pre-retirement death benefit payable to the participant's spouse at the earliest commencement date

Question 22

In what range is $\$X$?

- (A) Less than \$495
- (B) \$495 but less than \$515
- (C) \$515 but less than \$535
- (D) \$535 but less than \$555
- (E) \$555 or more

Data for Question 23 (3 points)

Selected plan provisions:

Benefit formula	5% of average compensation for each year of participation
Vesting schedule	Top-heavy 6-year graded
Normal retirement age	Age 65

Selected data for participant Smith:

Date of birth	12/31/1955
Date of hire	1/1/2018
Date of participation	1/1/2019
Compensation for all years	\$80,000

Question 23

In what range is Smith's vested accrued benefit payable as of 12/31/2020?

- (A) Less than \$2,400
- (B) \$2,400 but less than \$4,100
- (C) \$4,100 but less than \$5,800
- (D) \$5,800 but less than \$7,500
- (E) \$7,500 or more

Data for Question 24 (3 points)

Normal retirement benefit: 10% of final 5-year average compensation for each year of service

Selected data for participant Smith:

Date of birth 1/1/1962
Date of hire 1/1/2013
Date of participation 1/1/2014

<u>Year</u>	<u>Compensation</u>
2013	\$300,000
2014	300,000
2015	265,000
2016	270,000
2017	300,000
2018	250,000
2019	260,000
2020	250,000

Question 24

In what range is Smith's annual accrued benefit payable as of 12/31/2020?

- (A) Less than \$155,000
- (B) \$155,000 but less than \$180,000
- (C) \$180,000 but less than \$205,000
- (D) \$205,000 but less than \$230,000
- (E) \$230,000 or more

Data for Question 25 (2 points)

Selected data for participant Smith at his date of death:

Age	51
Age of spouse	48
Employment status	Terminated
IRC section 417(e) present value of vested benefit	\$150,000

Smith was married to his spouse for more than 1 year at the time of his death.

Question 25

Which of the following statements is true?

- (A) Smith's spouse will receive a qualified joint and survivor annuity.
- (B) The survivor annuity must be at least 50% of Smith's accrued benefit.
- (C) Smith's spouse is entitled to a qualified pre-retirement survivor annuity.
- (D) If Smith's spouse remarries prior to age 55, any survivor annuity payments would cease upon remarriage.
- (E) None of the above

Data for Question 26 (4 points)

Selected information as of 12/31/2019:

Vested active participants	19
Non-vested active participants	2
Non-participating employees	2
Terminated vested participants	0
Retirees	2
Beneficiaries of deceased participants	2
Alternate payees of vested active participants	1

Selected information as of 1/1/2020:

Market value of assets	\$500,000
Actuarial value of assets	550,000
Standard Premium Funding Target	600,000

All participants have an accrued benefit.

The plan administrator has opted out of the Small Plan Lookback Rule.

Question 26

In what range is the total 2020 PBGC premium?

- (A) Less than \$4,700
- (B) \$4,700 but less than \$5,100
- (C) \$5,100 but less than \$5,500
- (D) \$5,500 but less than \$5,900
- (E) \$5,900 or more

Data for Question 27 (3 points)

A plan administrator is using the Standard Premium Funding Target to determine PBGC premiums.

The plan administrator has opted out of the Small Plan Lookback Rule.

Minimum funding liabilities are based on segment rates and a 3-month lookback period.

Selected information as of 12/31/2019:

Active participants	40
Terminated vested participants	15
Retirees	30
Beneficiaries of deceased participants	10
Alternate payees of retirees receiving benefits	4

Selected information as of 1/1/2020:

Market value of assets	\$5,400,400
Actuarial value of assets	5,300,200
Premium funding target	
Using October 2019 segment rates	6,500,000
Using December 2019 segment rates	6,000,000

All participants have an accrued benefit.

Question 27

In what range is the total 2020 PBGC premium?

- (A) Less than \$35,000
- (B) \$35,000 but less than \$45,000
- (C) \$45,000 but less than \$55,000
- (D) \$55,000 but less than \$65,000
- (E) \$65,000 or more

Data for Question 28 (3 points)

Selected information as of 12/31/2019:

Active participants with accrued benefits	26
Terminated vested participants	20
Retired participants	4

Selected information as of 1/1/2020:

Market value of assets	\$805,000
Actuarial value of assets	885,500
Standard Premium Funding Target	1,475,000

The plan administrator has opted out of the Small Plan Lookback Rule and has never elected to use the Alternative Premium Funding Target.

Question 28

In what range is the total 2020 PBGC premium?

- (A) Less than \$31,000
- (B) \$31,000 but less than \$32,000
- (C) \$32,000 but less than \$33,000
- (D) \$33,000 but less than \$34,000
- (E) \$34,000 or more

Data for Question 29 (4 points)

Plan effective date: 9/1/2016

Benefit formula:

Division 1 2.0% of average annual compensation times years of participation
Division 2 0.5% of average annual compensation times years of participation

Vesting: Immediate

Plan termination date: 12/31/2020

Selected data for participants Smith and Jones, neither of whom is a majority owner:

	<u>Smith</u>	<u>Jones</u>
Division	1	2
Date of hire	1/1/2017	1/1/2018
Date of participation	1/1/2017	1/1/2018
Average annual compensation	\$22,000	\$70,000

$\$X$ = the monthly benefit payable at normal retirement date for Smith that is guaranteed by the PBGC.

$\$Y$ = the monthly benefit payable at normal retirement date for Jones that is guaranteed by the PBGC.

Question 29

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

- (A) Less than \$164
- (B) \$164 but less than \$176
- (C) \$176 but less than \$188
- (D) \$188 but less than \$200
- (E) \$200 or more

Data for Question 30 (5 points)

Type of plan: Multiemployer

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

There were no unfunded vested benefits in any year prior to 2018.

Employer B completely withdraws from the plan on 12/15/2020.

Employer A completely withdraws from the plan on 2/25/2021.

No other employers have withdrawn from the plan.

<u>Date</u>	Total plan unfunded vested <u>benefits</u>	<u>5-year sum of contributions</u>		All other <u>employers</u>
		<u>Employer A</u>	<u>Employer B</u>	
12/31/2018	\$2,000,000	\$1,650,000	\$2,175,000	\$11,625,000
12/31/2019	1,100,000	1,725,000	2,050,000	11,775,000
12/31/2020	2,500,000	1,675,000	1,800,000	11,775,000
12/31/2021	3,000,000	1,329,000	1,350,000	11,700,000

The share of unfunded vested benefits allocable to Employer B is expected to be fully collectible.

Question 30

In what range is the withdrawal liability for Employer A?

- (A) Less than \$280,000
- (B) \$280,000 but less than \$305,000
- (C) \$305,000 but less than \$330,000
- (D) \$330,000 but less than \$355,000
- (E) \$355,000 or more

Data for Question 31 (3 points)

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

Employer A ceases its participation in the multiemployer plan on 7/1/2020, resulting in Employer A's complete withdrawal from the plan.

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

Employer A contributed a total of \$250,000 in the 5 plan years prior to the plan year in which it withdrew.

Total contributions for all employers were \$10,000,000 in the 5 plan years prior to Employer A's withdrawal.

No other employers have withdrawn from the plan.

The plan's unfunded vested obligation as of 12/31/2019 is \$5,510,000.

The plan's unfunded vested obligation as of 12/31/2020 is \$6,050,000.

Question 31

In what range is the withdrawal liability for Employer A?

- (A) Less than \$100,000
- (B) \$100,000 but less than \$115,000
- (C) \$115,000 but less than \$130,000
- (D) \$130,000 but less than \$145,000
- (E) \$145,000 or more

Data for Question 32 (3 points)

An employer sponsors a defined benefit plan.

The employer borrows \$150,000 from the plan on 7/1/2018.

Interest on the note is 5.0% per year payable annually on 6/30 until the note is repaid.

The only payments the employer made are \$7,500 on each of 6/30/2019 and 6/30/2020.

The fair market rate of interest is 3.5%.

Question 32

In what range is the prohibited transaction excise tax due for 2020?

- (A) Less than \$1,600
- (B) \$1,600 but less than \$2,600
- (C) \$2,600 but less than \$3,600
- (D) \$3,600 but less than \$4,600
- (E) \$4,600 or more

Data for Question 33 (2 points)

Consider the following unrelated individuals:

- I. Plan fiduciary
- II. Person providing services to the plan
- III. Indirect owner of 49% of the plan sponsor
- IV. Spouse of a grandchild of the direct owner of 51% of the plan sponsor
- V. Officer of the corporation sponsoring the plan with no ownership interest in the corporation

Question 33

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

- (A) Less than 2
- (B) 2
- (C) 3
- (D) 4
- (E) 5

Data for Question 34 (2 points)

An enrolled actuary provides services to Company A and Company B. The enrolled actuary discovers a conflict of interest in providing services to both companies a few months after beginning to service both clients.

Consider the following statements:

- I. The enrolled actuary is unsure if he or she will be able to provide competent and diligent representation to both companies.
- II. There may be common ownership between Company A and Company B.
- III. The enrolled actuary had not disclosed the conflict before commencing services to Company A and Company B.

Question 34

Which, if any, of the above statements is a reason why the enrolled actuary may no longer represent both Company A and Company B?

- (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

Data for Question 35 (4 points)

Plan effective date: 1/1/2000

The plan was amended to increase benefits effective 8/31/2020.

Selected plan information as of 1/1/2020:

Funding balances	\$135,000
Market (actuarial) value of assets	6,550,000
Funding target before amendment	7,775,000
Increase in funding target due to amendment	345,000
Effective interest rate	4.50%

History of annuity purchases:

	<u>2018</u>	<u>2019</u>	<u>2020</u>
Annuity purchases for NHCEs	\$60,000	\$25,000	\$0
Annuity purchases for HCEs	18,000	0	5,000
Total annuity purchases	78,000	25,000	5,000

The 2020 AFTAP was certified on 3/31/2020.

\$X = the IRC section 436 contribution that the plan sponsor must make on 8/31/2020 for the amendment to take effect.

Question 35

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

- (A) Less than \$65,000
- (B) \$65,000 but less than \$70,000
- (C) \$70,000 but less than \$75,000
- (D) \$75,000 but less than \$80,000
- (E) \$80,000 or more

Data for Question 36 (4 points)

Consider the following information for the plan:

Effective date	1/1/2002
Monthly accrued benefit	1/12 of 1% of monthly compensation per completed month of service

<u>Plan year</u>	<u>Certification type</u>	<u>Date issued</u>	<u>AFTAP</u>
2013	Specific	3/31/2013	63%
2014	Range	3/31/2014	60% - 80%
2015	Specific	2/28/2015	76%
2016	Specific	9/30/2016	72%
2017	Specific	5/31/2017	68%
2018	Range	3/31/2018	60% - 80%
2019	Specific	3/31/2019	75%
2020	Specific	9/30/2020	82%

Prior to 2013, all certifications were made timely with a value of at least 60%.

The plan does not provide for automatic retroactive restoration of benefit accruals in the event a restriction under IRC section 436 is lifted.

The plan has never had any funding balances.

Selected data for participant Smith:

Date of birth	1/1/1970
Date of hire	1/1/2010
Compensation for all years of service	\$65,000 per year

Question 36

In what range is Smith's monthly accrued benefit as of 12/31/2020?

- (A) Less than \$545
- (B) \$545 but less than \$555
- (C) \$555 but less than \$565
- (D) \$565 but less than \$575
- (E) \$575 or more

Data for Question 37 (4 points)

Selected plan provisions:

Plan effective date	1/1/2015
Normal retirement age	62
Early retirement eligibility	Age 55
Early retirement benefit	Actuarial equivalent
Normal form of benefit	Life annuity
Optional forms of benefit	Qualified joint and 50% survivor annuity, Single sum
Actuarial equivalence	Applicable mortality table under IRC section 417(e) and 4% interest

Plan has always had less than 100 participants.

Selected data for participant Smith:

Date of birth	12/31/1962
Date of hire	1/1/2013
Date of termination	12/31/2018
Date of retirement	1/1/2020
Highest consecutive three-year average compensation	\$105,000

Selected IRC section 417(e) annual life annuity values using 2020 applicable mortality table:

<u>Age</u>	<u>4.0%</u>	<u>5.0%</u>	<u>5.5%</u>
56	17.26	15.44	14.66
57	16.95	15.20	14.45
60	15.99	14.44	13.76
62	15.31	13.90	13.28
65	14.27	13.05	12.50

$\$X$ = Smith's IRC section 415 maximum lump sum at retirement date.

Question 37

In what range is $\$X$?

- (A) Less than \$925,000
- (B) \$925,000 but less than \$945,000
- (C) \$945,000 but less than \$965,000
- (D) \$965,000 but less than \$985,000
- (E) \$985,000 or more

Data for Question 38 (4 points)

Early retirement eligibility age: 60

Early retirement reduction: 3% for each year prior to age 62

Actuarial equivalence factors using applicable mortality and 5% interest:

Early commencement from age 62 to age 60	0.88
Early commencement from age 65 to age 60	0.72

Selected data for participant Smith:

Date of birth	1/1/1960
Date of hire	1/1/2013
Date of participation	1/1/2014
Date of retirement	1/1/2020

<u>Year</u>	<u>Compensation</u>
2013	\$145,000
2014	155,000
2015	165,000
2016	175,000
2017	185,000
2018	190,000
2019	145,000

Question 38

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

- (A) Less than \$75,000
- (B) \$75,000 but less than \$100,000
- (C) \$100,000 but less than \$125,000
- (D) \$125,000 but less than \$150,000
- (E) \$150,000 or more

Data for Question 39 (3 points)

Plan year:

Profit sharing plan 4/1 - 3/31
Defined benefit plan 1/1 - 12/31

Selected data for all participants:

	Defined benefit plan present value of accrued benefits		Profit sharing account balances	
	<u>1/1/2020</u>	<u>1/1/2021</u>	<u>3/31/2020</u>	<u>3/31/2021</u>
Smith	\$400,000	\$675,000	\$225,000	\$300,000
Jones	100,000	125,000	100,000	125,000
Brown	100,000	105,000	50,000	52,500

Smith is the 100% owner and has always been the only key employee.

Brown terminated employment on 1/20/2019.

Question 39

In what range is the top-heavy ratio for the defined benefit plan for the 2021 plan year?

- (A) Less than 64.5%
- (B) 64.5% but less than 69.5%
- (C) 69.5% but less than 74.5%
- (D) 74.5% but less than 79.5%
- (E) 79.5% or more

Data for Question 40 (3 points)

Valuation date: 12/31

A company sponsors four defined benefit plans.

Top-heavy testing is being performed for the 2021 plan year.

Plans A and D are aggregated for purposes of coverage and nondiscrimination testing.

No key employees participate in Plan A.

Present value of accrued benefits for each plan are as follows:

	<u>Plan A</u>	<u>Plan B</u>	<u>Plan C</u>	<u>Plan D</u>
As of 1/1/2020:				
Key employees	\$0	\$14,000,000	\$17,500,000	\$2,300,000
Non-key employees	2,000,000	11,500,000	12,000,000	2,400,000
As of 12/31/2020:				
Key employees	\$0	\$14,500,000	\$17,000,000	\$2,200,000
Non-key employees	2,200,000	11,500,000	11,500,000	2,350,000
As of 1/1/2021:				
Key employees	\$0	\$14,750,000	\$17,500,000	\$2,350,000
Non-key employees	2,400,000	12,250,000	12,000,000	2,300,000

Question 40

In what range is the 2021 top-heavy percentage for the required aggregation group?

- (A) Less than 54.8%
- (B) 54.8% but less than 55.7%
- (C) 55.7% but less than 56.6%
- (D) 56.6% but less than 57.5%
- (E) 57.5% or more

Data for Question 41 (3 points)

A plan's vesting schedule is the top-heavy 6-year graded.

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

The plan was top-heavy from 2016 through 2019.

Selected data for non-key participant Smith:

Date of hire 1/1/2016

Normal retirement date 1/1/2028

<u>Year</u>	<u>Compensation</u>
2016	\$45,000
2017	50,000
2018	55,000
2019	65,000
2020	75,000

\$X = Smith's smallest allowable annual top-heavy vested benefit as of 12/31/2020.

Question 41

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

- (A) Less than \$3,000
- (B) \$3,000 but less than \$3,500
- (C) \$3,500 but less than \$4,000
- (D) \$4,000 but less than \$4,500
- (E) \$4,500 or more

Data for Question 42 (1 point)

The trustee (sole participant) of a plan used 49% of plan assets to purchase real estate. The participant pays rent to the plan in exchange for use of the real estate for nonbusiness purposes. The participant is the 100% owner of the company that sponsors the plan.

Consider the following statement:

A prohibited transaction has occurred.

Question 42

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 43 (3 points)

Earliest retirement eligibility: Age 60 with 10 years of service

Early retirement benefit: Accrued benefit reduced by 2% for each year prior to normal retirement date

Qualified joint and survivor annuity percentage: 75%

Selected data for participant Smith:

Date of birth	1/1/1960
Date of hire	1/1/2012
Date of marriage	1/1/2014
Annual accrued benefit as of the annuity start date	\$36,000

Selected conversion factors from a life annuity:

Joint and 50% survivor	93%
Joint and 75% survivor	90%
Joint and 100% survivor	88%

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

$\$X$ = the monthly benefit payable to Smith on his earliest commencement date.

Question 43

In what range is $\$X$?

- (A) Less than \$2,500
- (B) \$2,500 but less than \$2,600
- (C) \$2,600 but less than \$2,700
- (D) \$2,700 but less than \$2,800
- (E) \$2,800 or more

****END OF EXAMINATION****