ACTEX Learning

EA-2F Exams & Solutions

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An EA Exam

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Enrolled Actuaries Pension Examination, Segment F

EA-2, Segment F

Date: Thursday, November 10, 2022

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 May 31, 2022.

3. This examination consists of 60 multiple-choice questions of varying value. The point value for each question is shown in parentheses at the beginning of each question. Total point value is 160.

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.

Exam EA-2, (Segment F)

Answer Key EA-2F Fall 2022
August 17, 2022

Question	Answer		Question	Answer
1	B		31	A
2	D		32	B
3	B		33	B
4	B		34	B
5	A		35	A
6	D		36	B
7	B		37	C
8	A		38	B
9	C		39	D
10	C		40	D
11	B		41	A
12	D		42	D
13	C		43	B
14	B		44	C
15	B		45	C
16	D		46	B
17	A		47	B
18	C		48	B
19	B		49	C
20	D		50	D
21	B		51	C
22	B		52	B
23	B		53	A
24	C		54	B
25	B		55	B
26	B		56	D
27	B		57	B
28	D		58	B
29	B		59	A
30	B		60	A

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Pension

Data for Question 1 (3 points).

Valuation date: 1/1/2023

Selected information as of 1/1/2023:

Prefunding balance	$0
Actuarial (market) value of assets	500,000
Funding target	450,000
Target normal cost	250,000
Effective interest rate	5.00%

There are no required quarterly installments for the 2023 plan year.

$X is the **smallest amount that satisfies the minimum funding standard** as of 9/15/2024.

Question 1

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

(A) Less than $215,000

(B) $215,000 but less than $230,000

(C) $230,000 but less than $245,000

(D) $245,000 but less than $260,000

(E) $260,000 or more

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Data for Question 2 (3 points)

Valuation date: 1/1/2023

Optional form of payment: Single sum based on the greater of the lump sum determined under the plan's actuarial equivalence or under IRC section 417(e)(3).

Funding segment rates: {5.00%, 6.00%, 7.00%}

Plan's actuarial equivalence: Applicable mortality table under IRC section 417(e)(3) and 5.00%

The plan actuary assumes that 100% of participants elect a single sum.

Selected information for participant Smith as of 1/1/2023:

Date of birth	1/1/1958
Accrued benefit	$100 per month

Age 65 immediate annuity factor using the plan's actuarial equivalence: 12.621

Age 65 immediate annuity factor using 417(e) mortality and 417(e) segment rates: 11.461

$X is the funding target for Smith as of 1/1/2023.

Question 2

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

(A) Less than $13,000

(B) $13,000 but less than $14,000

(C) $14,000 but less than $15,000

(D) $15,000 but less than $16,000

(E) $16,000 or more

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Data for Question 3 (1 point)

Valuation date: 1/1/2023

The prior plan year was a short plan year.

Quarterly contribution installments are required for the 2023 plan year.

Consider the following statement:

> In determining the quarterly contribution installments for the 2023 plan year, the required annual payment under IRC section 430(j)(3) is equal to the lesser of 90% of the minimum required contribution for the current plan year or 100% of the minimum required contribution for the preceding short plan year.

Question 3

Is the above statement true or false?

(A) True

(B) False

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Data for Question 4 (3 points)

Valuation date: 12/31/2023

Asset valuation method: Market value

Prefunding balance: $0

Effective interest rate: 5.00%

Fair market value of assets as of 12/31/2023: $500,000

All contribution information for the 2023 plan year:

Date	Amount
4/30/2023	$30,000
9/30/2023	40,000

$X is the actuarial value of assets as of 12/31/2023.

Question 4

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

(A) Less than $379,000

(B) $379,000 but less than $429,000

(C) $429,000 but less than $479,000

(D) $479,000 but less than $529,000

(E) $529,000 or more

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Data for Question 5 (3 points)

Valuation date: 1/1/2023

The plan actuary is changing the actuarial valuation software for the 2023 plan year.

There was no change in the software for the 2022 plan year.

No expenses are paid from the trust.

Selected information as of 1/1/2022 using the prior valuation software:

Actuarial value of assets	\$500,000
Funding target	550,000
Target normal cost	100,000

Below is a table providing results of scenarios from the new software when trying to replicate the 2022 plan year information:

Scenario	Actuarial value of assets	Funding target	Target normal cost
I	\$495,000	\$555,000	\$99,000
II	488,000	555,000	99,000
III	495,000	565,000	99,000
IV	495,000	555,000	97,000

Question 5

Which of the above scenarios, if any, from the new software would allow for an automatic approval for a funding method change for the 2023 plan year under Rev. Proc. 2017-56, assuming all other requirements were satisfied?

(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 6 (1 point)

Valuation date: 1/1/2023

Consider the following statements regarding actuarial assumptions:

I. If a plan's vesting schedule changes, the termination rate assumption should be reviewed.

II. If a plan's early retirement subsidies are changed, the retirement rate assumption should be reviewed.

III. If a plan's eligibility definition for disability benefits changes, the disability assumption should be reviewed.

Question 6

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.

Data for Question 7 (1 point)

A large company offers subsidized early retirement and retiree medical benefits, but no enhanced disability benefits.

Consider the following statement:

> A table of assumed disability rates is required for the actuarial valuation.

Question 7

Is the above statement true or false?

(A) True

(B) False

Data for Question 8 (1 point)

Valuation date: 1/1/2023

A plan sponsor that is part of a controlled group fails to meet the minimum funding requirement for the plan year and is therefore subject to a non-deductible excise tax.

Consider the following statement:

> All members of the plan sponsor's controlled group are jointly and severally liable for the tax imposed.

Question 8

Is the above statement true or false?

(A) True

(B) False

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Data for Question 9 (5 points)

Valuation date: 1/1/2023

Asset valuation method: The average of the market value of assets on the valuation date and the adjusted market value of assets for the dates that are 12 and 24 months before the valuation date.

IRC section 430 interest rates for the following plan years:

	2021	2022	2023
3rd segment rate	5.00%	6.00%	6.00%
Effective interest rate	4.25%	5.20%	5.70%

Assumed rate of return on assets for all years: 7.50%

Selected asset information:

	2021	2022	2023
Market value (excluding receivables) at 1/1	$1,000,000	$1,250,000	$1,500,000
Benefit payments	50,000	62,500	
Expected expenses paid from plan assets	10,000	12,500	

Benefit payments and expenses are assumed to be paid in the middle of the year for each plan year.

No contributions were made for the 2020 or 2021 plan years.

Contribution information for the 2022 plan year:

Date	Amount
4/1/2022	$125,000
6/1/2023	75,000

Question 9

In what range is the actuarial value of assets as of 1/1/2023?

(A) Less than $1,400,000

(B) $1,400,000 but less than $1,410,000

(C) $1,410,000 but less than $1,420,000

(D) $1,420,000 but less than $1,430,000

(E) $1,430,000 or more

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Data for Question 10 (5 points)

Type of plan: Multiemployer

Valuation date: 1/1/2023

Actuarial cost method: Entry age normal

Normal retirement benefit: 50% of final year's compensation

Valuation interest rate: 7.00%

Assumed rate of compensation increases: 3.50%

Selected data for participant Smith:

Gender	Female
Date of birth	1/1/1969
Date of hire	1/1/2003
2022 compensation	$150,000

$X is the accrued liability for Smith as of 1/1/2023.

Question 10

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

(A) Less than $400,000

(B) $400,000 but less than $415,000

(C) $415,000 but less than $430,000

(D) $430,000 but less than $445,000

(E) $445,000 or more

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