SOCIETY OF ACTUARIES

AMERICAN SOCIETY OF PENSION ACTUARIES

JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES

PART 7P(US) (EA2)

JOINT BOARD PENSION EXAMINATION

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87

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Conditions Generally Applicable to all EA-2 Examination Questions

The following should be considered a part of the data for each question, unless otherwise stated or implied.

General Conditions Regarding Plan Provisions

1. "Plan" or "pension plan" means a defined benefit pension plan.

2. The plan is qualified under section 401 of the Internal Revenue Code, and contains all of the provisions required for qualification. Thus, for example, any benefit formulas should be understood to be limited by other plan provisions required by the Code.

3. The plan is sponsored by a single employer; the sponsoring employer is not a member of a controlled group.

4. The plan is not a multiemployer plan; it is not a collectively bargained plan.

5. The plan year, the employer's limitation year, and the employer's taxable year are all the calendar year.

6. The normal retirement age is 65.

7. Retirement pensions commence at normal retirement age and are paid monthly for life at the beginning of each month.

8. The plan covers all active employees of the employer; there is no age or service requirement for participation. Thus, when referring to active employees, the terms "employee" and "participant" are synonymous.

9. There are no mandatory employee contributions.

10. Service for purposes of vesting and benefit accrual is credited on the basis of time elapsed from date of hire.

11. When the normal retirement pension is computed as a dollar amount, or as a percentage of pay, for each year of service, the accrued benefit is defined likewise.

12. Actuarial equivalence is based on the mortality table and interest rate assumed for funding purposes.

13. The plan has not been top-heavy in any year.

General Conditions Regarding Funding

14. Qualified joint and survivor annuities and qualified preretirement survivor annuities are provided in such manner that they result in no cost to the employer.

15. The plan has not been amended since its effective date.

16. Any actuarial valuation encompasses not only all active employees but also retired employees, surviving spouses, and former employees entitled to vested deferred pensions.

17. The term "minimum required contribution" means the smallest contribution for a plan year which will prevent a funding deficiency at the end of that plan year, without regard to the alternative minimum funding standard account. Amounts to be amortized are not combined or offset against one another.

18. No waivers of funding deficiencies or extensions of amortization periods have been granted.

19. Actuarial assumptions specified for any particular question should be used in the analysis and solution of the problem, without reference to whether or not the assumptions would, for any other purpose, be deemed "reasonable" or would meet the "best estimate" criterion.

20. Expenses are paid directly by the employer, rather than from the assets of the plan,and therefore do not affect the funding of the plan.

21. The actuarial cost method, or funding method, is "reasonable" within the meaning of Code section 412 and the regulations thereon. Thus, for example, the unit credit cost method should be used in accordance with the regulations under section 412.

22. Where the normal cost under a funding method may be computed as either a level dollar amount or a level percentage of pay, the level-percentage approach is used if the plan benefits are based on pay, and the level-dollar approach if they are not.

23. Neither the cost method nor the actuarial assumptions have been changed since the plan effective date.

24. The adoption date of any plan or amendment is the same as its effective date.

25. The valuation date is the first day of the plan year; i.e., participant data, present value items, asset values, etc., are taken as of that date. Also, normal costs are payable yearly, the first being due on the valuation date.

26. The full funding limitation has not applied.

27. The employer is taxable, and all employer contributions for each prior plan year has been deducted by the employer for its taxable year coincident with such plan year.

28. Under the frozen initial liability method, whenever there is a change in plan assumptions, or asset valuation method, the unfunded liability is adjusted by adding to it the increase (positive or negative) in the <u>entry-age-normal</u> unfunded liability due to the change. Likewise, under the attained age normal method, the unfunded liability is adjusted by adding to it the increase in the <u>unit-credit</u> unfunded liability (determined under a reasonable funding method within the meaning of section 1.412(c)(2)-1 of the income tax Regulations).

29. The terms "actuarial value of assets" and "market value of assets" mean the values developed for the purposes of Code section 412 <u>before</u> being adjusted as required under funding methods of the aggregate type, for items such as the existing credit balance or the outstanding balances of certain bases.

30. For the purposes of computing the deductible limit for any year. the employer has never elected the fresh-start alternative or combined amortization bases.

31. The interset rate for amortizing waivers and for extensions is the same as the valuation interest rate.

<u>Miscellaneous</u>

32. All questions should be answered in accordance with regulations, temporary or final, under the Internal Revenue Code and ERISA, as amended through June 30, 1987.

33. The employer has never maintained a defined contribution plan. No employee has been covered by a defined contribution plan which is required to be aggregated for purposes of Code 415 with his employer's plan.

Data for Question 1

Actuarial cost method: Aggregate.

Assumed interest rate: 7%.

Funding deficiency in funding standard account as of 12/31/86: $10,000.

Valuation results as of 1/1/87:

Present value of future benefits	$ 1,740,000
Actuarial (market) value of assets	695,000
Present value of future compensation	18,100,000
Annual compensation	1,500,000
Normal cost under entry age normal method as of 1/1	87,000
Accrued liability under entry age normal method	690,000

Question 1

In what range is the deductible limit for 1987?

(A) Less than $82,000

(B) $82,000 but less than $87,000

(C) $87,000 but less than $92,000

(D) $92,000 but less than $97,000

(E) $97,000 or more

Data for Question 2

Plan effective date: 1/1/82.

Actuarial cost method: Entry age normal.

Assumed interest rate: 7%.

Initial accrued liability: $500,000.

Funding deficiency in funding standard account as of 12/31/86: $10,000.

Valuation results as of 1/1/87:

Normal cost as of 1/1	$ 25,000
Present value of future benefits	1,500,000
Actuarial value of assets	530,000
Present value of future normal costs	500,000

There have been no experience gains or losses other than an experience gain in 1983.

Question 2

In what range is the minimum required contribution for 1987 payable 12/31/87?

(A) Less than $70,500

(B) $70,500 but less than $72,500

(C) $72,500 but less than $74,500

(D) $74,500 but less than $76,500

(E) $76,500 or more

Data for Question 3

Plan effective date: 1/1/77.

Actuarial cost method:

Before 1987: Aggregate.
After 1986: Frozen initial liability.

Assumed interest rate: 7%.

Credit balance in funding standard account as of 12/31/86: $10,000.

Valuation results as of 1/1/87:

Present value of future benefits	$1,000,000
Actuarial (market) value of assets	160,000
Present value of future compensation	7,000,000
Annual compensation	700,000
Normal cost under entry age normal method as of 1/1	50,000
Accrued liability under entry age normal method	480,000

Question 3

In what range is the minimum required contribution for 1987 payable 12/31/87?

(A) Less than $68,000

(B) $68,000 but less than $72,000

(C) $72,000 but less than $76,000

(D) $76,000 but less than $80,000

(E) $80,000 or more

Data for Question 4

Plan effective date: 1/1/80.

Actuarial cost method: Frozen initial liability.

Assumed interest rate:

Before 1987: 6%.
After 1986: 7%.

Credit balance in funding standard account as of 12/31/86: $10,000.

Valuation results as of 1/1/87:

	6%	7%
Normal cost as of 1/1	$ 55,000	$ 50,000
Unfunded liability	425,000	325,000

Question 4

In what range is the minimum required contribution for 1987 payable 12/31/87?

(A) Less than $70,000

(B) $70,000 but less than $73,000

(C) $73,000 but less than $76,000

(D) $76,000 but less than $79,000

(E) $79,000 or more

Data for Question 5

Plan effective date: 1/1/68.

Plan termination date: 6/30/87.

Early retirement benefit: None.

Vesting eligibility: Full and immediate.

Normal retirement benefit:

Effective 1/1/68: 1.0% of final 5-year average compensation for each year of service.
Effective 1/1/85: 1.5% of final 5-year average compensation for each year of service.

Selected participant data as of 6/30/87:

	Smith	Brown
Date of birth	1/1/40	1/1/50
Date of hire	1/1/60	1/1/84
Ownership	100%	0%
Final 5-year average compensation	$50,000	$22,000

Question 5

In what range is the sum of the annual guaranteed benefits for Smith and Brown?

(A) Less than $10,000

(B) $10,000 but less than $10,200

(C) $10,200 but less than $10,400

(D) $10,400 but less than $10,600

(E) $10,600 or more

Data for Question 6

Actuarial cost method: Aggregate.

Assumed interest rate: 7%.

$50,000 of the minimum funding requirement for 1985 as of 12/31/85 was waived.

Credit balance in funding standard account as of 12/31/86: $0.

Valuation results as of 1/1/87:

Normal cost as of 1/1	$ 60,000
Actuarial (market) value of assets	800,000
Normal cost under entry age normal method as of 1/1	50,000
Accrued liability under entry age normal method	780,000

Question 6

In what range is the full funding credit in the funding standard account for 1987 as of 12/31/87?

(A) Less than $32,000

(B) $32,000 but less than $34,000

(C) $34,000 but less than $36,000

(D) $36,000 but less than $38,000

(E) $38,000 or more

Data for Question 7

Type of plan: Contributory.

Plan termination date: 12/31/86.

Date of distribution of assets: 12/31/86.

Normal retirement benefit: 1% of final 5-year average compensation for each year of service, plus the benefit attributable to voluntary employee contributions.

The plan provides for a reversion of residual assets to the employer upon plan termination.

Data for all participants as of 12/31/86:

	Smith	Brown
Date of birth	1/1/37	1/1/23
Date of hire	1/1/77	1/1/67
Present value based on PBGC assumptions:		
Priority category 1 benefits	$ 0	$ 3,000
Priority category 2 benefits	6,000	20,000
Priority category 3-6 benefits	2,000	57,000
Total benefits	8,000	80,000

Market value of assets as of 12/31/86: $200,000.

Each participant will receive a lump sum distribution on 12/31/86 equal to the present value of his total benefit based on PBGC assumptions.

The portion of residual assets attributable to employee contributions is determined under the standard method described in PBGC regulations under ERISA section 4044.

Question 7

In what range is Brown's share of residual assets?

(A) Less than $24,000

(B) $24,000 but less than $26,000

(C) $26,000 but less than $28,000

(D) $28,000 but less than $30,000

(E) $30,000 or more

Data for Question 8

Consider the following statements with respect to reasonable funding methods:

I. When the projected unit credit method is used to value a final-pay plan, the projected benefit must be allocated to each year of an employee's service in proportion to his projected pay for that year.

II. Even though the entry age normal method is used for valuing normal retirement benefits, the one-year term cost method may be used for valuing early retirement benefits.

III. Collectively bargained benefit increases which become effective in future plan years may not be reflected in the valuation for the current plan year.

Question 8

Which, if any, of these 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.

Data for Question 9

Actuarial cost method: Aggregate.

Assumed interest rate: 7%.

Valuation results as of 1/1/88:

Present value of future benefits	$ 400,000
Actuarial value of assets	200,000
Present value of future compensation	1,700,000
Annual compensation	250,000

The minimum funding requirement for 1987 of $20,000 was fully waived.

Required interest rate for 1988 for amortizing waived contributions: 8%.

Question 9

In what range is the minimum required contribution for 1988 payable 12/31/88?

(A) Less than $30,650

(B) $30,650 but less than $32,000

(C) $32,000 but less than $33,350

(D) $33,350 but less than $34,700

(E) $34,700 or more

Data for Question 10

Consider the following statements regarding acceptable asset valuation methods:

I. For a money purchase plan, plan assets must be valued at fair market value.

II. For a defined benefit plan, it is acceptable to define the actuarial value of assets as 105% of the market value of assets.

III. For a defined benefit plan, the actuarial value of assets cannot be less than 80% of the market value of assets.

Question 10

Which, if any, of these 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 11

Plan effective date: 1/1/80.

Plan termination date: 7/1/87.

Early retirement eligibility: Age 60 with 10 years of service.

Vesting eligibility: 100% after 10 years of service.

Data for all participants as of 7/1/87:

	Smith	Brown
Status	Retired	Active
Date of birth	7/1/17	7/1/30
Date of hire	7/1/57	7/1/62
Date of retirement	7/1/82	-
Ownership	0%	0%
Present value based on PBGC assumptions:		
Guaranteed benefit	$25,500	$16,000
Priority category 3 benefit	26,500	0
Total benefit	26,500	18,000

Market value of assets as of 7/1/87: $35,000.

Net worth of employer as of 7/1/87: $16,000.

Question 11

In what range is the maximum amount which the PBGC can assess against the employer for unfunded guaranteed benefits?

(A) Less than $5,000

(B) $5,000 but less than $6,000

(C) $6,000 but less than $7,000

(D) $7,000 but less than $8,000

(E) $8,000 or more

Data for Question 12

Plan effective date: 1/1/81.

Valuation date: 12/31.

Actuarial cost method: Entry age normal.

Assumed interest rate: 7%.

Credit balance in funding standard account as of 12/31/85: $0.

Selected valuation results:

	12/31/86	12/31/87
Normal cost as of 12/31	$ 50,000	$ 60,000
Accrued liability (excluding normal cost for year)	700,000	
Actuarial value of assets	480,000	580,000
Market value of assets	520,000	620,000

Special calculations for purposes of alternative minimum funding standard account, based on PBGC assumptions:

	12/31/86	12/31/87
Unit credit normal cost as of 12/31	$ 40,000	$ 50,000
Present value of accrued benefits (excluding unit credit normal cost for year)	500,000	

There have been no experience gains or losses.

The alternative minimum funding standard account was used only for 1986 and will not be used for 1987.

The minimum required contribution for 1986 under the alternative minimum funding standard was paid on 3/31/87.

Question 12

In what range is the minimum required contribution for 1987 payable 12/31/87?

(A) Less than $81,000

(B) $81,000 but less than $84,000

(C) $84,000 but less than $87,000

(D) $87,000 but less than $90,000

(E) $90,000 or more

Data for Question 13

Actuarial cost method: Aggregate.

Assumed interest rate: 7%.

Credit balance in funding standard account as of 12/31/86: $100,000.

Valuation results as of 1/1/87 for purposes of IRC section 412:

Normal cost as a percent of annual compensation	10%
Actuarial value of assets	$ 1,100,000
Present value of future compensation	15,000,000
Annual compensation	1,800,000

Question 13

In what range is the excess of the deductible limit for 1987 over the minimum required contribution for 1987 payable 1/1/87?

(A) Less than $85,000

(B) $85,000 but less than $95,000

(C) $95,000 but less than $105,000

(D) $105,000 but less than $115,000

(E) $115,000 or more

Data for Question 14

Plan effective date: 1/1/70.

Normal retirement benefit: 3% of final 5-year average compensation for each year of service.

Actuarial cost method: Aggregate.

Assumed compensation increases: 7% per year.

Assumed retirement age: 65.

Participant data as of 1/1/87:

	Smith	Brown	Green
Date of birth	1/1/27	1/1/37	1/1/37
Date of hire	1/1/52	1/1/62	1/1/72
1986 compensation	$7,500	$20,000	$42,000

Question 14

In what range is the sum of the projected annual retirement benefits for Smith, Brown, and Green for purposes of determining the minimum required contribution for 1987?

(A) Less than $151,500

(B) $151,500 but less than $152,500

(C) $152,500 but less than $153,500

(D) $153,500 but less than $154,500

(E) $154,500 or more

Data for Question 15

Type of plan: Multiemployer.

Withdrawal liability method: Direct attribution with mandatory de minimis rule.

History of contribution base units and unfunded vested benefits:

		Present Value of Unfunded Vested Benefits as of 12/31	
Year	Contribution Base Units for Employer A	Plan	Allocated to Employer A
1979	650,000	$7,500,000	$750,000
1980	600,000	6,500,000	650,000
1981	500,000	6,000,000	625,000
1982	400,000	5,500,000	500,000
1983	300,000	5,000,000	450,000
1984	200,000	4,500,000	325,000
1985	150,000	4,000,000	300,000
1986	125,000	3,500,000	250,000
1987	100,000	2,500,000	200,000
1988	75,000	1,500,000	125,000

Employer A experienced a partial withdrawal on 12/31/87 due to a 70% decline in contribution base units.

No other employers have withdrawn from the plan.

Question 15

In what range is Employer A's partial withdrawal liability on 1/1/88?

(A) Less than $175,000

(B) $175,000 but less than $205,000

(C) $205,000 but less than $235,000

(D) $235,000 but less than $265,000

(E) $265,000 or more

Data for Question 16

Plan effective date: 1/1/86.

Actuarial cost method: Projected unit credit.

Assumed interest rate: 7%.

Selected valuation results:

	1/1/86	1/1/87
Normal cost as of 1/1	$ 100,000	$ 120,000
Accrued liability	1,000,000	1,400,000

Contribution for 1986: $100,000 paid on 12/31/86.

Benefit payments for 1986: $0.

Contribution for 1987: $400,000 paid on 12/31/87.

Question 16

In what range is the deductible limit for 1987?

(A) Less than $250,000

(B) $250,000 but less than $275,000

(C) $275,000 but less than $300,000

(D) $300,000 but less than $325,000

(E) $325,000 or more

Data for Question 17

Plan effective date: 1/1/86.

Actuarial cost method: Frozen initial liability.

Assumed interest rate: 7%.

Initial accrued liability: $100,000.

On 1/1/87, the actuarial assumptions for terminations and retirements were revised, increasing the unfunded liability by 30%.

The contributions for 1986 and 1987 were paid on 12/31/86 and 12/31/87, respectively, in amounts equal to the deductible limits for 1986 and 1987, respectively.

Question 17

In what range is the credit balance in the funding standard account as of 12/31/87?

(A) Less than $12,800

(B) $12,800 but less than $13,400

(C) $13,400 but less than $14,000

(D) $14,000 but less than $14,600

(E) $14,600 or more

Data for Question 18

Plan effective date: 1/1/75.

Actuarial cost method:

Before 1987: Attained age normal.
After 1986: Frozen initial liability.

Assumed interest rate: 7%.

Initial accrued liability: $120,000.

Credit balance in funding standard account as of 12/31/86: $60,000.

Valuation results as of 1/1/87:

Normal cost as of 1/1	$ 130,000
Actuarial value of assets	1,700,000
Accrued liability under entry age normal method	2,600,000

Question 18

In what range is the minimum required contribution for 1987 payable 12/31/87?

(A) Less than $150,000

(B) $150,000 but less than $155,000

(C) $155,000 but less than $160,000

(D) $160,000 but less than $165,000

(E) $165,000 or more

Data for Question 19

Actuarial cost method: Entry age normal.

Assumed interest rate: 7%.

Credit balance in funding standard account as of 12/31/85: $30,000.

Net amortization charges in funding standard account as of 1/1/86: $12,000.

Contribution for 1986: $10,000 paid on 12/31/86.

Selected valuation results:

	1/1/86	1/1/87
Normal cost as of 1/1	$ 58,000	$ 62,000
Accrued liability	2,160,000	2,410,000
Actuarial (market) value of assets	2,200,000	2,375,000

Question 19

In what range is the minimum required contribution for 1987 payable 12/31/87?

(A) Less than $67,000

(B) $67,000 but less than $72,000

(C) $72,000 but less than $77,000

(D) $77,000 but less than $82,000

(E) $82,000 or more

Data for Question 20

Plan effective date: 1/1/86.

Actuarial cost method: Unit credit.

Assumed interest rate: 7%.

Selected valuation results:

	1/1/86	1/1/87
Normal cost as of 1/1	$ 7,000	$ 12,000
Accrued liability	80,000	100,000

$2,000 of the minimum funding requirement for 1986 was waived.

Contribution for 1986: $10,000 paid on 12/31/86.

Benefit payments for 1986: $0.

The contribution for 1987 was paid on 12/31/87 in an amount equal to the deductible limit for 1987.

Question 20

In what range is the credit balance in the funding standard account as of 12/31/87?

(A) Less than $2,700

(B) $2,700 but less than $3,900

(C) $3,900 but less than $5,100

(D) $5,100 but less than $6,300

(E) $6,300 or more

Data for Question 21

Plan effective date: 1/1/81.

Normal retirement benefit: $100 per month for each year of service.

Data for participant Smith as of 1/1/87:

Date of birth 1/1/25
Date of hire 1/1/79
Annual compensation:

1979	$ 8,000
1980	9,000
1981	10,000
1982	11,000
1983	11,000
1984	11,000
1985	10,000
1986	9,000

Question 21

In what range is Smith's annual accrued benefit as of 1/1/87?

(A) Less than $7,400

(B) $7,400 but less than $8,200

(C) $8,200 but less than $9,000

(D) $9,000 but less than $9,800

(E) $9,800 or more

Data for Question 22

Plan effective date: 1/1/86.

Normal retirement benefit: \$15 per month for each year of service.

Compensation averaging period for purposes of IRC section 416: 3 years.

Actuarial cost method: Projected unit credit.

Actuarial assumptions:

Interest: 7%.
Compensation increases: 5% per year.
Preretirement deaths and terminations: None.
Retirement age: 65.

Data for non-key employee Smith as of 1/1/87:

Date of birth	1/1/47
Date of hire	1/1/77
1986 compensation	\$20,000

The plan has been top-heavy since its inception.

Selected annuity factor on valuation basis:

$$\ddot{a}_{65}^{(12)} = 10$$

Question 22

In what range is Smith's normal cost for 1987 as of 1/1/87?

(A) Less than \$500

(B) \$500 but less than \$900

(C) \$900 but less than \$1,300

(D) \$1,300 but less than \$1,700

(E) \$1,700 or more

Data for Question 23

Plan effective date: 1/1/83.

Actuarial cost method:

Before 1987: Entry age normal.
After 1986: Aggregate.

Assumed interest rate: 7%.

Initial accrued liability: $200,000.

Valuation results as of 1/1/87:

Present value of future benefits	$ 350,000
Actuarial (market) value of assets	50,000
Present value of future compensation	3,500,000
Annual compensation	400,000
Normal cost under entry age normal method as of 1/1	15,000
Accrued liability under entry age normal method	220,000

There have been no experience gains or losses other than an experience gain of $3,000 in 1986.

Question 23

In what range is the minimum required contribution for 1987 payable 12/31/87?

(A) Less than $17,000

(B) $17,000 but less than $19,000

(C) $19,000 but less than $21,000

(D) $21,000 but less than $23,000

(E) $23,000 or more

Data for Question 24

As of 1/1/87, Plan A is split into Plans B and C.

Actuarial cost method: Frozen initial liability.

Valuation results and funding standard account items as of 1/1/87:

	Plan A	Plan B	Plan C
Actuarial (market) value of assets	$300,000	$125,000	$175,000
Accrued liability under entry age normal method	450,000	230,000	220,000
Credit balance	60,000	5,000	55,000
Outstanding balance of the amortization base	185,000		

The outstanding balances of the amortization base are allocated by the method illustrated in Revenue Ruling 81-212.

Question 24

In what range is the outstanding balance of the amortization base allocated to Plan B as of 1/1/87?

(A) Less than $91,000

(B) $91,000 but less than $93,000

(C) $93,000 but less than $95,000

(D) $95,000 but less than $97,000

(E) $97,000 or more

Data for Question 25

Plan effective date: 1/1/85.

Actuarial cost method: Entry age normal.

Assumed interest rate: 7%.

Selected valuation results:

	1/1/85	1/1/86
Normal cost as of 1/1	$ 50,000	$ 60,000
Unfunded accrued liability	350,000	300,000

Contribution for 1985: $100,000 paid on 12/31/85.

Contribution for 1986: $100,000 paid on 6/30/86.

Question 25

In what range is the unamortized balance as of January 1, 1987 of the IRC section 404 amortization base for the initial accrued liability?

(A) Less than $300,000

(B) $300,000 but less than $303,000

(C) $303,000 but less than $306,000

(D) $306,000 but less than $309,000

(E) $309,000 or more

Data for Question 26

Plan effective date: 1/1/87.

Normal retirement eligibility: Age 60.

Normal retirement benefit: 20% of final 5-year average compensation.

Preretirement death benefit: None.

Data for sole participant:

Date of birth	1/1/29
Date of hire	1/1/84
Date of retirement	1/1/89
Annual compensation:	

1984	$200,000
1985	250,000
1986	250,000
1987	300,000
1988	300,000

Selected commutation functions for purposes of IRC section 415:

$N_{60}^{(12)} = 1{,}350$ $\quad N_{62}^{(12)} = 1{,}200$ $\quad N_{65}^{(12)} = 1{,}100$

Question 26

In what range is the maximum benefit payable in 1989?

(A) Less than $14,000

(B) $14,000 but less than $21,000

(C) $21,000 but less than $28,000

(D) $28,000 but less than $35,000

(E) $35,000 or more

Data for Question 27

Defined contribution plan provisions:

Effective date: 1/1/86.
Vesting eligibility: Full and immediate.
Employer contributions: 5% of compensation.
Mandatory employee contributions: 2% of compensation.

Defined benefit plan provisions:

Effective date: 1/1/87.
Normal retirement benefit: 100% of final year's compensation.

Actuarial cost method: Entry age normal.

Assumed compensation increases: 6% per year.

Assumed retirement age: 62.

Data for participant Smith as of 1/1/87:

Date of birth	1/1/27
Date of hire	1/1/86
1986 compensation	$50,000

Benefits from the defined benefit plan will be reduced first if benefits and contributions would otherwise be more than permitted by IRC section 415.

Question 27

In what range is the maximum annual benefit projected for Smith in the 1/1/87 valuation?

(A) Less than $14,500

(B) $14,500 but less than $20,500

(C) $20,500 but less than $26,500

(D) $26,500 but less than $32,500

(E) $32,500 or more

Data for Question 28

Money purchase plan participation eligibility: Date of hire.

Defined benefit plan effective date: 1/1/87.

Actuarial cost method: Aggregate.

Normal cost for 1987 as of 12/31/87: $275,000.

Total compensation paid to employees for 1987: $1,000,000.

Contribution to money purchase plan for 1987: $100,000 paid on 12/31/87.

Contribution to defined benefit plan for 1987: $300,000 paid on 12/31/87.

Question 28

In what range is the employer's excise tax for nondeductible contributions for 1987?

(A) Less than $5,000

(B) $5,000 but less than $8,000

(C) $8,000 but less than $11,000

(D) $11,000 but less than $14,000

(E) $14,000 or more

Data for Question 29

Asset valuation method: Average value over three years, as described in regulations under IRC section 412.

Fund transactions and market values of invested assets:

Date	Transaction	Receipts	Disburse-ments	Market Value
1/ 1/85				$564,000
3/15/85	Contribution for 1984	$150,000		
6/ 1/85	Interest on cash deposits	9,000		
6/ 2/85	Purchase of 1,000 shares of ABC common stock		$145,000	
7/ 1/85	Lump sum benefit payments		10,000	
10/ 1/85	Dividends	8,000		
1/ 1/86				660,000
3/15/86	Contribution for 1985	175,000		
7/ 1/86	Lump sum benefit payments		150,000	
10/ 1/86	Dividends	12,000		
10/15/86	Sale of 500 shares of ABC common stock	100,000		
10/16/86	Purchase of Treasury bonds at par value		150,000	
1/ 1/87				613,000
3/15/87	Contribution for 1986	20,000		

Question 29

In what range is the actuarial value of assets as of 1/1/87?

(A) Less than $630,000

(B) $630,000 but less than $655,000

(C) $655,000 but less than $680,000

(D) $680,000 but less than $705,000

(E) $705,000 or more

Data for Question 30

Plan effective date: 1/1/84.

Plan year: Calendar year.

Employer's taxable year: 10/1 - 9/30.

Actuarial cost method: Aggregate.

Assumed interest rate: 7%.

Valuation results as of 1/1/87:

Present value of future benefits	$ 3,000,000
Actuarial value of assets	700,000
Present value of future compensation	15,000,000
Annual compensation	1,500,000

The deductible limit for any taxable year is the deductible limit determined on the basis of the plan year beginning in that taxable year.

The contribution for the 1986 plan year was paid on 6/30/86.

$50,000 of the contribution for the 1987 plan year was paid on 6/15/87 and deducted for the taxable year ending 9/30/86.

Question 30

In what range is the deductible limit for the taxable year ending 9/30/87?

(A) Less than $178,000

(B) $178,000 but less than $208,000

(C) $208,000 but less than $238,000

(D) $238,000 but less than $268,000

(E) $268,000 or more

Data for Question 31

As of 1/1/87, Plan A is split into Plans B and C.

Credit balance in funding standard account for Plan A as of 12/31/86: $80,000.

The credit balance in the funding standard account for Plan A is allocated to Plans B and C by the method illustrated in Revenue Ruling 81-212.

Market value of assets for Plan A as of 12/31/86: $600,000.

Present value of accrued benefits as of 12/31/86 on a termination basis:

	Plan A	Plan B	Plan C
Vested benefits	$510,000	$165,000	$345,000
Nonvested benefits	165,000	60,000	105,000
All benefits	675,000	225,000	450,000

Question 31

In what range is the credit balance in the funding standard account for Plan B as of 1/1/87?

(A) Less than $26,000

(B) $26,000 but less than $27,000

(C) $27,000 but less than $28,000

(D) $28,000 but less than $29,000

(E) $29,000 or more

Data for Question 32

Plan effective date: 7/1/79.

Plan year: 7/1 - 6/30.

Employer's taxable year: Calendar year.

Actuarial cost method: Attained age normal.

Assumed interest rate: 7%.

Credit balance in funding standard account as of 6/30/87: $25,000.

Valuation results as of 7/1/87:

Normal cost as of 7/1	$ 45,000
Unfunded liability	450,000

The deductible limit for any taxable year is the deductible limit determined on the basis of the plan year beginning in that taxable year.

Question 32

In what range is the deductible limit for 1987?

(A) Less than $116,000

(B) $116,000 but less than $118,000

(C) $118,000 but less than $120,000

(D) $120,000 but less than $122,000

(E) $122,000 or more

NOVEMBER 1987 EA-2 ANSWER KEY

1.	C	17.	D
2.	E	18.	E
3.	D	19.	D
4.	C	20.	B
5.	C	21.	C
6.	D	22.	D
7.	C	23.	C
8.	A	24.	E
9.	B	25.	D
10.	E	26.	A
11.	B	27.	A
12.	C	28.	D
13.	C	29.	E
14.	B	30.	C
15.	D	31.	E
16.	E	32.	C