SOCIETY OF ACTUARIES

AMERICAN SOCIETY OF PENSION ACTUARIES

JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES

NOVEMBER 1996 COURSE P-365U (EA2)

JOINT BOARD BASIC EXAMINATION

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Conditions Generally Applicable
to All EA-2 Examination Questions

The following conditions 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 Code section 401. 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 collectively bargained.

(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 or voluntary employee contributions.

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

(11) When the normal retirement benefit is computed as a dollar amount, or as a percentage of compensation, 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) Qualified joint and survivor annuities and qualified preretirement survivor annuities are provided in such manner that they result in no cost to the employer.

(14) The plan has not been top-heavy in any year.

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

General Conditions Regarding Funding

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

(17) The valuation date is the first day of the plan year; i.e., participant data, present values, asset values, etc. are as of that date. Also, normal costs are payable annually, the first being due on the valuation date.

(18) 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 Code section 412.

(19) Where the normal cost under an actuarial cost method may be computed as either a level percentage of compensation or a level dollar amount, the level percentage approach is used if the plan benefits are based on compensation, and the level dollar approach is used if they are not.

(20) Under the frozen initial liability method, whenever there is a change in the plan, actuarial assumptions, or asset valuation method, the unfunded liability is adjusted by adding to it the increase (positive or negative) in the unfunded entry age normal accrued 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 unfunded unit credit accrued liability.

(21) The terms "actuarial value of assets" and "market value of assets" mean the values developed for purposes of Code section 412, before 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.

(22) All actuarial assumptions are deemed "reasonable" and meet the "best estimate" criterion.

(23) The actuarial cost method, asset valuation method, and actuarial assumptions have not 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 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.

(26) Additional funding charges and additional interest charges due to late quarterly contributions have never applied.

(27) No waivers of funding deficiencies or extensions of amortization periods have been granted.

(28) The interest rate used for amortizing waivers and for extensions of amortization periods is the same as the valuation interest rate.

(29) The employer is taxable, and all employer contributions for each prior plan year have been deducted by the employer for its taxable year coincident with such plan year.

(30) For purposes of determining the deductible limit for any year, the employer does not use (and has never used) the fresh-start alternative and does not combine (and has never combined) amortization bases.

(31) The full funding limitation has never applied.

(32) 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.

(33) Assumed compensation increases first apply to the year immediately following the latest year for which valuation compensation is shown.

Miscellaneous General Conditions

(34) All plan provisions and funding comply with all temporary and final regulations under the Internal Revenue Code and ERISA, as amended through June 30, 1996.

(35) 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 with his employer's plans for purposes of Code section 415.

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

Conditions Specially Applicable to All 1996 EA-2 Examination Questions

(1) The additional funding charge shall be disregarded if sufficient information to determine such charge is not provided.

(2) For purposes of determining the additional funding charge, the optional rule and the transition rule shall be disregarded unless there is specific reference to such rules.

(3) The quarterly contribution requirement shall be disregarded if sufficient information to determine such requirement is not provided.

(4) The full funding limitations based on 90% or 150% of the current liability shall be disregarded if sufficient information to determine such limitations is not provided.

(5) For purposes of determining the deductible limit, the unfunded current liability shall be disregarded if sufficient information to determine such liability is not provided.

(6) Unless separate current liabilities are provided, the current liability is the same for all purposes.

1996

Data for Question 1 (1 point)

Consider the following statement:

> In order to facilitate a standard plan termination under Title IV of ERISA, a majority owner may agree, with spousal consent, to forego receipt of all or part of his or her benefit until the benefit liabilities of all other plan participants have been satisfied.

Question 1

Is the above statement true or false?

(A) True

(B) False

Data for Question 2 (1 point)

A plan has (a) at least 100 participants on each day of the preceding plan year, and (b) for purposes of IRC section 412(m), a funded current liability percentage of less than 90% for the current plan year and more than 100% for the prior plan year.

Consider the following statement:

> The plan is subject to the liquidity requirements for the current plan year.

Question 2

Is the above statement true or false?

(A) True

(B) False

1996

Data for Question 3 (1 point)

Consider the following statement:

All terminating plans must offer participants the option of a lump sum distribution.

Question 3

Is the above statement true or false?

(A) True

(B) False

Data for Question 4 (1 point)

Consider the following statement:

For purposes of determining the deductible limit for 1996, the $150,000 compensation limit shall apply without consideration of the family aggregation rules.

Question 4

Is the above statement true or false?

(A) True

(B) False

1996

Data for Question 5 (1 point)

Before RPA '94, a plan's lump sum distributions for a plan year were determined based on the applicable interest rates under IRC section 417(e)(3) in effect on the first day of the plan year and based on the UP-1984 Mortality Table. After RPA '94, the plan was amended so that lump sum distributions for a plan year are determined based on the annual 30-year Treasury security rate for the second month preceding the first day of the plan year and based on the 1983 Group Annuity Mortality Table blended 50% for males and 50% for females.

Consider the following statement:

> The change in the month used for determining the interest rate to be used created a grandfathered present value of accrued benefit.

Question 5

Is the above statement true or false?

(A) True

(B) False

Data for Question 6 (1 point)

Consider the following statement:

> In the calculation of the variable rate portion of the PBGC premium, the valuation interest rate is used to discount paid contributions under the General Rule, and the Required Interest Rate is used to discount paid contributions under the Alternative Calculation Method.

Question 6

Is the above statement true or false?

(A) True

(B) False

1996

Data for Question 7 (1 point)

Consider the following statement:

During 1996, all qualified plans must accept direct rollovers from other qualified plans.

Question 7

Is the above statement true or false?

(A) True

(B) False

Data for Question 8 (1 point)

Consider the following statement:

An excise tax of 20% of the amount of any reversion from a plan termination is applicable if no excess assets are transferred to a qualified replacement plan and if the plan does not provide benefit increases to any participants.

Question 8

Is the above statement true or false?

(A) True

(B) False

1996

Data for Question 9 (1 point)

Consider the following statement:

> In determining minimum lump sum distributions under IRC section 417(e), the stability period for which the applicable interest rate remains constant may be one calendar month, one plan quarter, or one plan year.

Question 9

Is the above statement true or false?

(A) True

(B) False

Data for Question 10 (1 point)

A company sponsors several qualified plans which are part of a top-heavy aggregation group with plans having different determination dates.

Consider the following statement:

> In determining the top-heavy status of the plans, the plans are aggregated by adding together the results for each plan as of the determination dates for such plans that fall within the same calendar year.

Question 10

Is the above statement true or false?

(A) True

(B) False

1996

Data for Question 11 (1 point)

Consider the following statement:

Automatic approval is not available for any change in actuarial cost method for a plan with a waived funding deficiency.

Question 11

Is the above statement true or false?

(A) True

(B) False

Data for Question 12 (1 point)

Consider the following statement:

A plan currently calculates lump sum benefits payable to participants as the larger of the amount calculated (a) using a 6% interest rate, or (b) using the PBGC interest rates for the month in which the lump sum is paid. The provisions of the plan can be changed to use the IRC section 417(e) interest and mortality rates specified by the GATT legislation without protecting existing lump sum benefits.

Question 12

Is the above statement true or false?

(A) True

(B) False

1996

Data for Question 13 (4 points)

Plan effective date: 1/1/95.

Normal retirement benefit:

Effective 1/1/95: $25 per month for each year of service.
Effective 1/1/96: $30 per month for each year of service.

Actuarial cost method: Entry age normal.

Valuation interest rate: 7% per year.

Selected valuation results:

	1/1/95 ($25)	1/1/96 ($30)
Normal cost as of 1/1	$ 25,000	$ 29,000
Accrued liability	115,000	175,000
Actuarial (market) value of assets	0	46,000

Contribution for 1995: $40,000 paid on 1/1/95.

There are no inactive participants.

Question 13

In what range is the minimum required contribution for 1996 payable 12/31/96?

(A) Less than $32,000

(B) $32,000 but less than $35,000

(C) $35,000 but less than $38,000

(D) $38,000 but less than $41,000

(E) $41,000 or more

1996

Data for Question 14 (4 points)

Plan effective date: 1/1/90.

Normal retirement benefit: 2% of highest 3-year average compensation for each year of service.

Mandatory employee contributions: 3% of compensation, paid on 12/31.

Vesting eligibility: 3 to 7 year graded vesting.

Actuarial assumptions specified in plan for determining lump sum actuarial equivalence:

Average yield on 30-year Treasury securities for the month immediately preceding the beginning of the plan year, and 1983 Group Annuity Mortality Table blended 50% for males and 50% for females.

Data for participant Smith:

Date of birth	1/1/40
Date of hire	1/1/92
Annual compensation for 1992-1995	$60,000 each year

120% of applicable federal mid-term rate:

For 1992	8.10% per year	For 1995	9.54% per year
For 1993	7.63% per year	For 1996	6.89% per year
For 1994	6.40% per year		

Selected values for determining lump sum actuarial equivalence:

	Interest Rate	$\ddot{a}^{(12)}_{65}$
For 1992	7.70% per year	
For 1993	7.44% per year	
For 1994	6.25% per year	
For 1995	7.87% per year	9.28
For 1996	6.06% per year	10.60

Question 14

In what range is Smith's annual vested accrued benefit as of 1/1/96?

(A) Less than $2,675
(B) $2,675 but less than $2,725
(C) $2,725 but less than $2,775
(D) $2,775 but less than $2,825
(E) $2,825 or more

1996

Data for Question 15 (4 points)

Plan effective date: 1/1/88.

Actuarial cost method:

Before 1996: Frozen initial liability.
After 1995: Aggregate.

Valuation interest rate: 7% per year.

Initial accrued liability: $250,000.

Credit balance in funding standard account as of 12/31/95: $25,000.

Selected valuation results as of 1/1/96:

Present value of future benefits	$ 975,000
Actuarial (market) value of assets	220,000
Present value of future compensation	6,400,000
Annual compensation	400,000
Normal cost under entry age normal cost method as of 1/1	45,000
Accrued liability under entry age normal cost method	455,000

150% of current liability full funding credit for 1989: $35,000.

150% of current liability full funding credit for 1992: $40,000.

Question 15

In what range is the minimum required contribution for 1996 payable 12/31/96?

(A) Less than $25,500

(B) $25,500 but less than $28,000

(C) $28,000 but less than $30,500

(D) $30,500 but less than $33,000

(E) $33,000 or more

1996

Data for Question 16 (4 points)

A company sponsors the following qualified plans:

Plan A: Defined benefit plan covering all commission-paid nonunion employees.
Plan B: Defined benefit plan covering all salary-paid nonunion employees.
Plan C: Defined benefit plan covering all employees subject to collective bargaining.
Plan D: Money purchase plan covering all commission-paid nonunion employees.
Plan E: Profit-sharing plan covering all commission-paid nonunion employees.
Plan F: Profit-sharing plan covering all salary-paid nonunion employees.

Participant data for 1996:

	Number of HCE's	Number of NHCE's
Commission-paid nonunion employees	5	10
Salary-paid nonunion employees	0	25
Employees subject to collective bargaining	0	30

Actual benefit percentages for 1996:

	Actual Benefit % for HCE's	Actual Benefit % for NHCE's
Plan A	7%	6%
Plan B	-	2%
Plan C	-	3%
Plan D	4%	2%
Plan E	5%	4%
Plan F	-	3%

The optional rule for determining actual benefit percentages without regard to plans of another type is not used.

All employees have met the plans' eligibility requirements of age 21 and one year of service.

Question 16

In what range is the IRC section 410(b) average benefit percentage for the plans for 1996?

(A) Less than 43.9%

(B) 43.9% but less than 53.9%

(C) 53.9% but less than 63.9%

(D) 63.9% but less than 73.9%

(E) 73.9% or more

1996

Data for Question 17 (4 points)

Valuation interest rate: 7% per year.

Required interest rate for amortizing waived contributions:

1994	13% per year
1995	14% per year
1996	15% per year

The minimum funding requirement for 1993 of $70,000 as of 12/31/93 was waived.

There are no accumulated additional funding charges or additional interest charges due to late quarterly contributions.

Question 17

In what range is the balance in the accumulated reconciliation account as of 12/31/96?

(A) Less than $10,700

(B) $10,700 but less than $11,500

(C) $11,500 but less than $12,300

(D) $12,300 but less than $13,100

(E) $13,100 or more

1996

Data for Question 18 (4 points)

Effective date of money purchase plan and defined benefit plan: 1/1/92.

Employer contribution to money purchase plan: 10% of compensation, paid on 12/31 to all employees.

Normal retirement benefit in defined benefit plan: 90% of final 3-year average compensation.

Benefits from the defined benefit plan are reduced first if benefits and contributions otherwise exceed the combined limits of IRC section 415(e).

Assumed compensation increases: $10,000 per year.

Assumed retirement age: 65.

For purposes of determining projected benefits from the defined benefit plan, the defined contribution fraction is determined by projecting contributions to the assumed retirement age.

Valuation data for participant Smith as of 1/1/96:

Date of birth 1/1/35
Date of hire 1/1/90
Annual compensation:

1990	$105,000	1993	$120,000
1991	110,000	1994	125,000
1992	115,000	1995	135,000

Top-heavy percentage for each year: 75%.

Defined contribution dollar limitation under IRC section 415 for 1990 and all later years: $30,000.

Defined benefit dollar limitation under IRC section 415 for 1996: $120,000.

Compensation limitation under IRC section 401(a)(17) for 1996: $150,000.

Question 18

In what range is the projected annual normal retirement benefit payable to Smith from the defined benefit plan for purposes of determining the deductible limit for 1996?

(A) Less than $76,000
(B) $76,000 but less than $86,000
(C) $86,000 but less than $96,000
(D) $96,000 but less than $106,000
(E) $106,000 or more

1996

Data for Question 19 (4 points)

Plan effective date: 1/1/94.

Plan year: Calendar year.

Plan sponsor's tax year: 10/1 - 9/30.

The deductible limit for any tax year is based upon the valuation for the plan year beginning in that tax year.

Actuarial cost method: Entry age normal.

Valuation interest rate: 7% per year.

Initial accrued liability: $500,000.

Experience gain or loss in 1994: $0.

Experience gain in 1995: $65,000.

150% of current liability full funding credit for 1995: $30,000.

Credit balance in funding standard account as of 12/31/95: $5,000.

Normal cost for 1996 as of 1/1/96: $60,000.

The contribution for the 1996 plan year was paid on 12/31/96 in an amount equal to the deductible limit for the tax year ending 9/30/96.

There are no contribution carryovers or prededucted contributions from the tax year ending 9/30/95.

Question 19

In what range is the credit balance in the funding standard account as of 12/31/96?

(A) Less than $36,000

(B) $36,000 but less than $37,500

(C) $37,500 but less than $39,000

(D) $39,000 but less than $40,500

(E) $40,500 or more

1996

Data for Question 20 (4 points)

Type of plan: Multiemployer.

History of contribution base units for Employer A:

1981	280,000
1982	280,000
1983	275,000
1984	260,000
1985	250,000
1986	245,000
1987	240,000
1988	70,000
1989	80,000
1990	85,000
1991	70,000
1992	42,000
1993	47,000
1994	55,000
1995	60,000

Question 20

In what range is the fraction used, in determining Employer A's partial withdrawal liability, to prorate the liability Employer A would have incurred for a complete withdrawal ?

(A) Less than 65%

(B) 65% but less than 70%

(C) 70% but less than 75%

(D) 75% but less than 80%

(E) 80% or more

1996

Data for Question 21 (4 points)

Actuarial cost method: Attained age normal.

Valuation interest rate: 7% per year.

Interest rate on late quarterly contributions for 1996: 10.13% per year.

Selected valuation results and funding standard account items:

	1/1/94	1/1/95	1/1/96
Normal cost as of 1/1	$150,000	$140,000	$125,000
Credit balance as of 1/1	0	0	50,000
Net amortization charges as of 1/1	35,000	35,000	35,000

The contribution for 1995 was paid on 12/31/95.

Only contribution for 1996 paid before 1/15/97: $80,000 paid on 7/15/96.

Funded current liability percentage as of 1/1/94: 100%.

Funded current liability percentage as of 1/1/95: 95%.

Question 21

In what range is the smallest contribution for 1996 which must be paid on 1/15/97 to avoid an additional interest charge due to late quarterly contributions for 1996?

(A) Less than $7,000

(B) $7,000 but less than $8,500

(C) $8,500 but less than $10,000

(D) $10,000 but less than $11,500

(E) $11,500 or more

1996

Data for Question 22 (4 points)

Plan effective date: 1/1/90.

Valuation date: 12/31.

Actuarial cost method: Aggregate.

Valuation interest rate: 7% per year.

Credit balance in funding standard account as of 12/31/95: $0.

Selected valuation results as of 12/31/96:

Normal cost	$ 90,000
Accrued liability (including normal cost for year) under entry age normal cost method	920,000
Market value of assets	860,000
Actuarial value of assets	870,000
OBRA '87 current liability	900,000
RPA '94 current liability	1,040,000

There have always been less than 100 participants in the plan.

Question 22

In what range is the deductible limit for 1996?

(A) Less than $60,000

(B) $60,000 but less than $65,000

(C) $65,000 but less than $70,000

(D) $70,000 but less than $75,000

(E) $75,000 or more

1996

Data for Question 23 (4 points)

Plan effective date: 1/1/70.

Normal retirement age: 62.

Normal retirement benefit: 2.75% of final 3-year average compensation for each year of service.

Early retirement benefit: Normal retirement benefit, reduced by 7% for each year by which the benefit commencement date precedes the normal retirement date.

Preretirement death benefit: None.

Data for participant Smith:

Date of birth	1/1/39
Date of hire	1/1/73
Final 3-year average compensation	$150,000
Date of retirement	1/1/96
Form of payment elected	Life annuity

Defined benefit dollar limitation under IRC section 415 for 1996: $120,000.

Selected commutation functions based on 5% interest and 1983 GAM Table blended 50% for males and 50% for females:

x	$N_x^{(12)}$
57	8,148
62	5,567
65	4,332

Question 23

In what range is Smith's annual benefit?

(A) Less than $52,800

(B) $52,800 but less than $55,600

(C) $55,600 but less than $58,400

(D) $58,400 but less than $61,200

(E) $61,200 or more

1996

Data for Question 24 (4 points)

Plan effective date: 1/1/88.

Actuarial cost method:

Before 1996: Entry age normal.
After 1995: Unit credit.

Valuation interest rate: 7% per year.

Selected valuation results and funding standard account items as of 1/1/96:

	Entry Age Normal Method	Unit Credit Method
Normal cost as of 1/1	$ 40,000	$ 60,000
Accrued liability	350,000	500,000
Actuarial value of assets	250,000	250,000
Credit balance as of 1/1	5,000	5,000
Net amortization charge as of 1/1	25,000	

Automatic approval for the change in method is provided under Revenue Procedure 95-51.

Question 24

In what range is the minimum required contribution for 1996 payable 12/31/96?

(A) Less than $97,500

(B) $97,500 but less than $102,000

(C) $102,000 but less than $106,500

(D) $106,500 but less than $111,000

(E) $111,000 or more

Data for Question 25 (4 points)

Consider the following statements regarding Department of Labor requirements for summary plan descriptions for pension plans:

I. If a significant number of participants are literate only in one non-English language, summary plan descriptions must be distributed to such participants in that language.

II. Examples of benefit calculations are not necessarily required.

III. If a plan provides for different levels of benefits to different groups of participants, a different version of the summary plan description may be issued to each group of participants describing only the benefits applicable to that group.

Question 25

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 26 (4 points)

Plan A effective date: 1/1/86.

As of 1/1/96, Plan A is split into Plans B and C.

Actuarial cost method: Frozen initial liability.

Valuation interest rate: 7% per year.

Selected valuation results and funding standard account items as of 1/1/96:

	Plan A	Plan B	Plan C
Normal cost as of 1/1	$ 80,000	$ 52,000	$ 28,000
Actuarial (market) value of assets	250,000	150,000	100,000
Accrued liability under entry age normal cost method	550,000	360,000	190,000
Credit balance as of 1/1	50,000	30,000	20,000
Outstanding balance of the amortization base as of 1/1	400,000		

The outstanding balance of the amortization base is allocated to Plans B and C according to the method set forth in Revenue Ruling 81-212.

Question 26

In what range is the minimum required contribution for Plan C for 1996 payable 12/31/96?

(A) Less than $20,000

(B) $20,000 but less than $22,000

(C) $22,000 but less than $24,000

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

(E) $26,000 or more

1996

Data for Question 27 (4 points)

Actuarial cost method: Projected unit credit.

Actuarial assumptions for 1996:

Valuation interest rate: 8.00% per year.
OBRA '87 current liability interest rate: 7.62% per year.
RPA '94 current liability interest rate: 7.62% per year.

Selected valuation results and funding standard account items as of 1/1/96:

Normal cost as of 1/1	$ 85,000
Accrued liability	900,000
Actuarial (market) value of assets	500,000
OBRA '87 current liability as of 1/1	850,000
RPA '94 current liability as of 1/1	850,000
Credit balance as of 1/1	0
Net amortization charges as of 1/1:	
For plan amendments	50,000
For experience losses	20,000
OBRA '87 deficit reduction contribution under prior law	84,175
RPA '94 deficit reduction contribution under new law	186,222

In 1995, the plan sponsor irrevocably elected the Optional Rule to compute the additional unfunded old liability as of 1/1/95 subject to amortization over 12 years. The sponsor did not elect the Transition Rule.

Number of participants on each day in 1995 and 1996: 150.

Question 27

In what range is the minimum required contribution for 1996 payable 12/31/96?

(A) Less than $202,000

(B) $202,000 but less than $208,000

(C) $208,000 but less than $214,000

(D) $214,000 but less than $220,000

(E) $220,000 or more

Data for Question 28 (4 points)

Normal retirement eligibility: Age 65.

Normal retirement benefit: 1.0% of final 5-year average compensation for each year of service, plus X% of final 5-year average compensation in excess of Social Security Covered Compensation for each year of service up to 40 years; payable as a life annuity with 10 years certain.

Early retirement eligibility: Age 62.

Early retirement reduction: 5/12% for each month by which the benefit commencement date precedes the normal retirement date.

Optional forms of payment: Qualified joint and survivor annuity; straight life annuity.

Active participants range in age from 22 to 62.

Plan factor to convert a life annuity with 10 years certain to a straight life annuity: 106%.

Unadjusted permitted disparity factors under IRC section 401(l) for different Social Security Retirement Ages (SSRA):

Age	SSRA 65	SSRA 66	SSRA 67
67	-	-	.750
66	-	.750	.700
65	.750	.700	.650
64	.700	.650	.600
63	.650	.600	.550
62	.600	.550	.500
61	.550	.500	.475
60	.500	.475	.450

Question 28

In what range is the maximum value of X% which will meet the requirements of IRC section 401(l)?

(A) Less than 0.450%

(B) 0.450% but less than 0.490%

(C) 0.490% but less than 0.530%

(D) 0.530% but less than 0.570%

(E) 0.570% or more

1996

Data for Question 29 (4 points)

Plan effective date: 1/1/86.

Actuarial cost method:

Before 1996: Frozen initial liability.
After 1995: Aggregate.

Valuation interest rate: 7% per year.

Required interest rate for 1996 for amortizing waived contributions: 13% per year.

Initial accrued liability: $750,000.

Credit balance in funding standard account as of 12/31/94: $0.

Increase in accrued liability as of 1/1/95 due to change in mortality assumption: $80,000.

Normal cost for 1995 as of 1/1/95: $75,000.

$60,000 of the minimum funding requirement for 1995 was waived.

Contribution for 1995: $40,000 paid on 12/31/95.

Selected valuation results as of 1/1/96:

Present value of future benefits	$2,000,000
Actuarial (market) value of assets	950,000
Present value of future compensation	3,000,000
Annual compensation	300,000

Question 29

In what range is the minimum required contribution for 1996 payable 12/31/96?

(A) Less than $158,000

(B) $158,000 but less than $163,000

(C) $163,000 but less than $168,000

(D) $168,000 but less than $173,000

(E) $173,000 or more

Data for Question 30 (4 points)

Valuation date: 12/31.

Data for all participants ever covered in a company's two qualified plans:

	Key Employees		Non-Key Employees	
	Smith	Brown	Green	Jones
Date of birth	1/1/29	1/1/35	1/1/35	1/1/50
Date of hire	1/1/74	1/1/85	1/1/90	1/1/90
Date of retirement	1/1/94	-	-	-
Money purchase plan account balance:				
As of 12/31/95	-	$220,000	$30,000	$15,000
As of 12/31/96	-	245,000	33,000	17,000
Present value of accrued benefits in defined benefit plan:				
As of 12/31/95	$300,000	145,000	35,000	8,000
As of 12/31/96	285,000	175,000	42,000	10,000

Smith received a full distribution of his money purchase plan account balance of $500,000 upon his retirement.

Smith's annual benefit in defined benefit plan: $32,000, payable on a monthly basis as a life annuity.

Question 30

In what range is the top-heavy percentage for 1996?

(A) Less than 92.1%

(B) 92.1% but less than 93.1%

(C) 93.1% but less than 94.1%

(D) 94.1% but less than 95.1%

(E) 95.1% or more

1996

Data for Question 31 (4 points)

Actuarial cost method: Projected unit credit.

Valuation interest rate: 8% per year.

Credit balance in funding standard account as of 12/31/94: $5,000.

Selected valuation results and funding standard account items:

	1/1/95	1/1/96
Normal cost as of 1/1	$ 50,000	$55,000
Actuarial value of assets	380,000	
RPA '94 current liability as of 1/1	400,000	
Net amortization charges as of 1/1	25,000	30,000

Quarterly contributions paid for 1995:

Date	Amount
4/15/95	$16,875
7/15/95	16,875
10/15/95	16,875
1/15/96	16,875

The final contribution for 1995 is paid on 4/15/96 in the smallest amount such that there is no required quarterly contribution for 1996 payable 4/15/96.

Question 31

In what range is the final contribution for 1995?

(A) Less than $21,500

(B) $21,500 but less than $25,000

(C) $25,000 but less than $28,500

(D) $28,500 but less than $32,000

(E) $32,000 or more

1996

Data for Question 32 (4 points)

Plan effective date: 1/1/95.

Plan year: Calendar year.

Plan sponsor's tax year: 7/1 - 6/30.

The deductible limit for any tax year is based on the valuation for the plan year beginning in that tax year.

Plan sponsor's tax filing date for tax year ending 6/30/96: 3/15/97.

Actuarial cost method: Projected unit credit.

Valuation interest rate: 7% per year.

Initial accrued liability: $450,000.

Normal cost for 1995 plan year as of 1/1/95: $44,000.

Contribution for 1995 plan year: $115,000 paid on 4/30/95.

Experience loss in 1995 plan year: $15,000.

Normal cost for 1996 plan year as of 1/1/96: $47,000.

Contribution for 1996 plan year: $115,000 paid on 4/30/96.

Question 32

In what range is the amount of excise tax on nondeductible contributions for the tax year ending 6/30/96?

(A) Less than $250

(B) $250 but less than $500

(C) $500 but less than $750

(D) $750 but less than $1,000

(E) $1,000 or more

1996

Data for Question 33 (4 points)

Plan effective date: 1/1/94.

Valuation date: 12/31.

Actuarial cost method: Entry age normal.

Valuation interest rate: 7% per year.

Credit balance in alternative minimum funding standard account as of 12/31/94: $0.

Selected valuation results:

	12/31/94	12/31/95
Normal cost	$155,000	$200,000
Accrued liability (excluding normal cost for year)	0	195,000
Actuarial value of assets	0	165,000
Market value of assets	0	170,000
Unit credit normal cost on a termination basis	150,000	202,000
Present value of accrued benefits on a termination basis (excluding unit credit normal cost for year)	0	171,000

The alternative minimum funding standard account was used for 1994 and 1995 only.

The contribution for 1995 was paid on 12/31/95 in an amount equal to the minimum required contribution for 1995 determined as of 12/31/95.

Question 33

In what range is the amortization charge to the regular funding standard account for 1996 as of 12/31/96 due to the change from the alternative minimum funding standard account?

(A) Less than $1,350

(B) $1,350 but less than $1,800

(C) $1,800 but less than $2,250

(D) $2,250 but less than $2,700

(E) $2,700 or more

1996

Data for Question 34 (4 points)

Type of plan: Multiemployer.

Plan effective date: 1/1/94.

Actuarial cost method:

Before 1996: Entry age normal.
After 1995: Projected unit credit.

Valuation interest rate: 7% per year.

Experience gain or loss in 1995: $0.

Credit balance in funding standard account as of 12/31/95: $2,000.

Unfunded accrued liability under projected unit credit method as of 1/1/96: $450,000.

Amortization charges in funding standard account as of 1/1/96:

Due to initial accrued liability	$35,000
Due to experience loss in 1994	4,000
Due to assumption change on 1/1/95	5,500

Weighted average future working lifetime of active participants as of 1/1/96: 20 years.

Question 34

In what range is the amortization credit in the funding standard account as of 1/1/96 due to the change in actuarial cost method?

(A) Less than $6,000

(B) $6,000 but less than $9,000

(C) $9,000 but less than $12,000

(D) $12,000 but less than $15,000

(E) $15,000 or more

1996

Data for Question 35 (4 points)

Defined benefit plan effective date: 1/1/90.

Profit-sharing plan effective date: 1/1/96.

Contribution to profit-sharing plan: Determined annually at discretion of plan sponsor.

Actuarial cost method: Aggregate.

Valuation interest rate: 7% per year.

Valuation date: 12/31.

Selected valuation results as of 12/31/96:

Normal cost	$ 90,000
Current liability	800,000
Actuarial (market) value of assets	720,000
Normal cost under entry age normal cost method	40,000
Accrued liability (excluding normal cost for year) under entry age normal cost method	710,000

Data for all participants (all active) as of 12/31/96:

	Smith	Brown	Green	Jones
Date of hire	1/1/80	1/1/89	1/1/92	1/1/80
1996 compensation	$180,000	$75,000	$60,000	$35,000

Compensation limitation under IRC section 401(a)(17) for 1996: $150,000.

Defined contribution limitation under IRC section 415 for 1996: $30,000.

Question 35

In what range is the combined deductible limit for both plans for 1996?

(A) Less than $80,000

(B) $80,000 but less than $83,000

(C) $83,000 but less than $86,000

(D) $86,000 but less than $89,000

(E) $89,000 or more

Data for Question 36 (4 points)

Consider the following statement regarding the calculation of the PBGC variable rate premium for plan years beginning in 1996:

I. The variable rate premium for the 1996 plan year must reflect a benefit increase which becomes effective on the first day of the 1996 plan year if it is included in a collective bargaining agreement ratified on or before the last day of the 1995 plan year.

II. The variable rate premium for the 1996 plan year must be based on the current liability using the 1983 Group Annuity Mortality Table for nondisabled participants, regardless of the plan's valuation mortality assumptions.

III. The variable rate premium for all plan years beginning in 1996 includes only 60% of the excess of the calculated per participant variable rate premium over $53.

Question 36

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.

1996

Data for Question 37 (4 points)

Type of plan: Defined benefit Keogh plan.

Plan effective date: 1/1/96.

Normal retirement benefit: 100% of highest 3-year average of earned income.

Actuarial cost method: Individual aggregate.

Actuarial assumptions:

Valuation interest rate: 7% per year.
Compensation increases: None.
Preretirement decrements: None.
Retirement age: 65.

Data for sole participant Smith (owner-employee):

Date of birth 1/1/53
Date of hire 1/1/93
Earned income (after all deductions other than plan contributions):

1993	\$ 95,000
1994	100,000
1995	90,000
1996	102,500

Selected annuity value:

$$\ddot{a}_{65}^{(12)} = 9.87$$

Question 37

In what range is the minimum required contribution for 1996 payable 1/1/96?

(A) Less than \$16,500

(B) \$16,500 but less than \$17,500

(C) \$17,500 but less than \$18,500

(D) \$18,500 but less than \$19,500

(E) \$19,500 or more

Data for Question 38 (4 points)

Defined benefit plan effective date: 1/1/85.

Effective date of IRC section 401(h) postretirement medical benefit account: 1/1/96.

Actuarial cost method: Entry age normal.

Valuation interest rate: 7% per year.

Selected valuation results as of 1/1/96:

	Pension Benefits	Medical Benefits
Normal cost as of 1/1	$ 650,000	$ 100,000
Accrued liability	8,500,000	1,000,000
Actuarial (market) value of assets	7,000,000	0

The contribution for pension benefits for 1996 is paid on 12/31/96 in an amount equal to the deductible limit for pension benefits for 1996.

The deductible limit for pension benefits for 1996 is determined under the fresh-start alternative.

Question 38

In what range is the maximum allowable contribution for postretirement medical benefits for 1996?

(A) Less than $210,000

(B) $210,000 but less than $240,000

(C) $240,000 but less than $270,000

(D) $270,000 but less than $300,000

(E) $300,000 or more

1996

Data for Question 39 (4 points)

Type of plan: Multiemployer.

Plan effective date: 1/1/87.

Withdrawal liability method: Rolling five (one pool), with mandatory de minimis rule.

History of employer contributions:

Year	Employer A	Employer B	All Employers
1987	$50,000	$36,000	$540,000
1988	55,000	38,000	555,000
1989	58,000	63,000	565,000
1990	62,000	66,000	575,000
1991	63,000	65,000	595,000
1992	30,000	67,000	600,000
1993		72,000	615,000
1994		75,000	630,000
1995		30,000	650,000

Unfunded present value of vested benefits as of 12/31/94: $800,000.

Unfunded present value of vested benefits as of 12/31/95: $825,000.

Withdrawal liabilities expected to be collected for withdrawals before 1995 as of 12/31/94: $50,000.

Withdrawal liabilities expected to be collected for withdrawals before 1995 as of 12/31/95: $43,000.

Employer A withdrew from the plan in 1992. Employer B withdrew from the plan in 1995. There have been no other withdrawals from the plan.

Question 39

In what range is Employer B's withdrawal liability?

(A) Less than $75,000

(B) $75,000 but less than $80,000

(C) $80,000 but less than $85,000

(D) $85,000 but less than $90,000

(E) $90,000 or more

Data for Question 40 (4 points)

Plan effective date: 1/1/90.

Actuarial cost method: Frozen initial liability.

Valuation interest rate:

Before 1996: 8% per year.
After 1995: 7% per year.

Amortization charge in funding standard account for initial accrued liability as of 1/1/95: $82,407.

Credit balance in funding standard account as of 12/31/95: $0.

Increase in accrued liability due to change in valuation interest rate as of 1/1/96: $200,000.

Normal cost for 1996 as of 1/1/96: $100,000.

The contribution for 1996 is paid on 12/31/96 in an amount equal to the deductible limit for 1996.

The employer has never elected the fresh-start alternative to determine the deductible limit.

Question 40

In what range is the credit balance in the funding standard account as of 12/31/96?

(A) Less than $51,000

(B) $51,000 but less than $56,000

(C) $56,000 but less than $61,000

(D) $61,000 but less than $66,000

(E) $66,000 or more

1996

Data for Question 41 (4 points)

Valuation date: 12/31.

Actuarial cost method: Aggregate.

Valuation interest rate: 7% per year.

Amortization base established 12/31/96 due to 150% of current liability full funding credit for 1995: $150,000.

Credit balance in funding standard account as of 12/31/96: $0.

Selected valuation results as of 12/31/96:

Present value of future benefits	$ 2,000,000
Actuarial value of assets	600,000
Market value of assets	595,000
Present value of future compensation	20,000,000
Annual compensation	1,500,000
Accrued liability (including normal cost for year) under entry age normal cost method	700,000
OBRA '87 current liability	725,000
RPA '94 current liability	790,000

Maximum number of participants ever covered in plan: 75.

Question 41

In what range is the deductible limit for 1996?

(A) Less than $100,000

(B) $100,000 but less than $106,000

(C) $106,000 but less than $112,000

(D) $112,000 but less than $118,000

(E) $118,000 or more

Data for Question 42 (4 points)

Plan effective date: 1/1/80.

Effective 1/1/94, the plan was amended to provide a 15% increase in benefits for existing retirees.

Plan termination date: 1/1/96.

Data for retired participant Smith:

Date of birth	1/1/33
Date of retirement	1/1/92
Spouse's date of birth	1/1/33
Spouse's date of death	1/1/93
Initial monthly benefit payable as a joint and 100% survivor annuity	$2,100

Smith is not a substantial owner.

Maximum monthly benefit guaranteed by the PBGC for 1996 (payable at age 65 as a life annuity): $2,642.05.

PBGC actuarial equivalence factor for converting a life annuity to a joint and 100% survivor annuity: 80%.

PBGC reduction factor for early retirement: 7/12 of 1% for each of the first 60 months by which the benefit commencement date precedes the normal retirement date.

Question 42

In what range is Smith's maximum monthly benefit guaranteed by the PBGC?

(A) Less than $1,300

(B) $1,300 but less than $1,600

(C) $1,600 but less than $1,900

(D) $1,900 but less than $2,200

(E) $2,200 or more

1996

Data for Question 43 (4 points)

Actuarial cost method: Aggregate.

Valuation interest rate: 7% per year.

Current liability interest rate: 7.5% per year.

Credit balance in funding standard account as of 12/31/94 and 12/31/95: $0.

Selected valuation results:

	1/1/95	1/1/96
Normal cost as of 1/1	$ 300,000	
Present value of future benefits		$ 6,000,000
Present value of future compensation		40,000,000
Annual compensation		3,000,000
Actuarial (market) value of assets	1,220,000	1,500,000
Normal cost under entry age normal cost method as of 1/1	260,000	270,000
Accrued liability under entry age normal cost method	1,200,000	1,600,000
Current liability projected to 12/31	925,000	1,400,000
Expected benefit payments for year	0	0

Question 43

In what range is the minimum required contribution for 1996 payable 12/31/96?

(A) Less than $355,000

(B) $355,000 but less than $365,000

(C) $365,000 but less than $375,000

(D) $375,000 but less than $385,000

(E) $385,000 or more

Data for Question 44 (4 points)

An employer sponsors a defined benefit plan (Plan A) and a money purchase pension plan (Plan B), both of which benefit employees of Division X only.

Valuation interest rate: 7% per year.

Minimum required contribution to Plan A for 1996 as of 12/31/96: $630,000.

Deductible limit for Plan A alone for 1996: $700,000.

Contribution to Plan A for 1996: $650,000 paid on 12/31/96.

Contribution to Plan B for 1996: $250,000 paid on 12/31/96.

Total taxable compensation paid to all employees (all nonhighly compensated) for 1996:

Division X (125 employees)	$2,500,000
Division Y (50 employees)	1,000,000

No contributions are returned to the employer.

Question 44

In what range is the employer's total excise tax due to nondeductible contributions for 1996?

(A) Less than $10,500

(B) $10,500 but less than $12,500

(C) $12,500 but less than $14,500

(D) $14,500 but less than $16,500

(E) $16,500 or more

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ANSWER KEY

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