SOCIETY OF ACTUARIES

AMERICAN SOCIETY OF PENSION ACTUARIES

JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES

ENROLLED ACTUARIES PENSION EXAMINATION, SEGMENT B

MAY 2002 EA-2, SEGMENT B, EXAMINATION

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Conditions Generally Applicable to All EA-2 (Segment B) Examination Questions

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

For purposes of this examination, the "sunset" provisions of the Economic Growth and Tax Relief Reconciliation Act (EGTRRA) should be ignored.

For purposes of this examination, IRS, Treasury and PBGC releases granting terrorist attack and disaster relief should be ignored.

General Conditions Regarding Plan Provisions

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

(2) The plan is qualified under IRC 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 a taxable entity and is not a member of a controlled group.

(4) The plan is not established or maintained in connection with a collectively bargained agreement.

(5) The plan year, the employer's limitation year, and the employer's tax 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, and never have been, 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) Unless otherwise specified, the assumed retirement age is the normal retirement age.

(19) The terms "actuarial value of assets" and "market value of assets" mean the values developed for purposes of IRC 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.

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

(21) The adoption date of any plan or amendment is the same as its effective date.

(22) 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.

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

(24) The full funding limitation has never applied.

(25) The full funding limitations based on current liability shall be disregarded if sufficient information to determine such limitations is not provided.

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

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

Miscellaneous General Condition

(28) All plan provisions and funding comply with all temporary and final regulations under the Internal Revenue Code and ERISA, as amended through December 31, 2001.

(29) The employer has never maintained a defined contribution plan. No employee has been covered by a defined contribution plan that is required to be aggregated with his employer's plans for purposes of IRC section 415.

(30) The terms "applicable mortality (table)" and "applicable interest (rate)" are as defined in IRC section 417(e)(3).

(31) For purposes of coverage testing under IRC section 410(b), “snapshot” testing is not used and permitted disparity is not imputed.

(32) Transition rules under Rev. Rul. 98-1 shall be disregarded unless there is specific reference to such rules.

*(33) Where IRC section 401(a)(17) applies, compensations do not exceed these limits unless sufficient information to apply the limits is provided.

*(34) Benefits do not exceed IRC section 415 limits unless sufficient information to apply these limits is provided.

(35) References to law and regulation section numbers are for clarity and can be assumed to be correct.

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

LIMITS, TABLES AND FORMULAS
(To be included with the EA-2 (Segment B) examination)

Compensation Limit IRC section 401(a)(17)	
Year	Limit
1989	200,000
1990	209,200
1991	222,220
1992	228,860
1993	235,840
1994-1996	150,000
1997-1999	160,000
2000-2001	170,000
2002	200,000

Maximum Benefit Limit IRC section 415(b)	
Year	Limit at SSRA
1983-1987	90,000
1988	94,023
1989	98,064
1990	102,582
1991	108,963
1992	112,221
1993	115,641
1994	118,800
1995-1996	120,000
1997	125,000
1998-1999	130,000
2000	135,000
2001	140,000
Year	Limit at 62
2002	160,000

Highly Compensated Employee Compensation **IRC section 414(q)**	
Year	**Limit**
1997-1999	80,000
2000-2001	85,000
2002	90,000

Nondiscriminatory Classification Test IRC section 410(b)		
Nonhighly compensated employee concentration percentage	Safe harbor percentage	Unsafe harbor percentage
0-60	50.00	40.00
61	49.25	39.25
62	48.50	38.50
63	47.75	37.75
64	47.00	37.00
65	46.25	36.25
66	45.50	35.50
67	44.75	34.75
68	44.00	34.00
69	43.25	33.25
70	42.50	32.50
71	41.75	31.75
72	41.00	31.00
73	40.25	30.25
74	39.50	29.50
75	38.75	28.75
76	38.00	28.00
77	37.25	27.25
78	36.50	26.50
79	35.75	25.75
80	35.00	25.00
81	34.25	24.25
82	33.50	23.50
83	32.75	22.75
84	32.00	22.00
85	31.25	21.25
86	30.50	20.50
87	29.75	20.00
88	29.00	20.00
89	28.25	20.00
90	27.50	20.00
91	26.75	20.00
92	26.00	20.00
93	25.25	20.00
94	24.50	20.00
95	23.75	20.00
96	23.00	20.00
97	22.25	20.00
98	21.50	20.00
99	20.75	20.00

LIMITS, TABLES AND FORMULAS
(To be included with the EA-2 (Segment B) examination)

Permitted Disparity Tables IRC section 401(*l*)

Age at benefit Commencement	SSRA 65	SSRA 66	SSRA 67	Simplified Table
	Annual factor in maximum excess allowance and maximum offset allowance percent			
70	1.209	1.101	1.002	1.048
69	1.096	0.998	0.908	0.950
68	0.996	0.907	0.825	0.863
67	0.905	0.824	0.750	0.784
66	0.824	0.750	0.700	0.714
65	0.750	0.700	0.650	0.650
64	0.700	0.650	0.600	0.607
63	0.650	0.600	0.550	0.563
62	0.600	0.550	0.500	0.520
61	0.550	0.500	0.475	0.477
60	0.500	0.475	0.450	0.433
59	0.475	0.450	0.425	0.412
58	0.450	0.425	0.400	0.390
57	0.425	0.400	0.375	0.368
56	0.400	0.375	0.344	0.347
55	0.375	0.344	0.316	0.325

FICA Taxable Wage Base

Year	Limit
1992	55,500
1993	57,600
1994	60,600
1995	61,200
1996	62,700
1997	65,400
1998	68,400
1999	72,600
2000	76,200
2001	80,400
2002	84,900

Key Employee Compensation IRC section 416

Year	Officer	10 Largest Owners	1% Owners
2000	67,500	30,000	150,000
2001	70,000	35,000	150,000
2002	130,000	N/A	150,000

LIMITS, TABLES AND FORMULAS
(To be included with the EA-2 (Segment B) examination)

Maximum PBGC Guaranteed Life-Only Annuity at Age 65	
Year	Monthly Benefit
1999	3,051.14
2000	3,221.59
2001	3,392.05
2002	3,579.55

FACTORS USED TO REDUCE MAXIMUM PBGC GUARANTEED BENEFITS FOR PAYMENTS OTHER THAN AS A SINGLE LIFE ANNUITY AT AGE 65

Commencement Age	
Age	Factor
65 & over	1.00
64	.93
63	.86
62	.79
61	.72
60	.65
59	.61
58	.57
57	.53
56	.49
55	.45
54	.43
53	.41
52	.39
51	.37
50	.35
49	.33
48	.31
47	.29
46	.27
45	.25

Form of Payment Certain & Life*	
Years	Factor
1	.995
2	.990
3	.985
4	.980
5	.975
6	.965
7	.955
8	.945
9	.935
10	.925

*Reduction decreases by 0.01 per year in excess of 10.

Form of Payment Joint & Contingent		
Percent	Factor	with 10 yr Certain
50%	.900	× .960
66 2/3 %	.867	× .970
75%	.850	× .975
100%	.800	× .990

Form of Payment Joint & Survivor	
Percent	Factor
50%	1.00
66 2/3 %	.93
75%	.90
100%	.80

Age Difference For J&S Beneficiary		
Difference	Younger	Older
1	.99	1.005
2	.98	1.010
3	.97	1.015
4	.96	1.020
5	.95	1.025
6	.94	1.030
7	.93	1.035
8	.92	1.040
9	.91	1.045
10	.90	1.050

LIMITS, TABLES AND FORMULAS
(To be included with the EA-2 (Segment B) examination)

PBGC ADJUSTMENTS TO VESTED BENEFITS TO DETERMINE VARIABLE PREMIUM

$$VB_{adj} = VB_{Pay} \times 0.94^{(RIR-BIR)} + \left[VB_{Nonpay} \times 0.94^{(RIR-BIR)} \times ((100 + \mathrm{BIR}) / (100 + \mathrm{RIR}))^{(ARA-50)}\right]$$

ARA = Assumed retirement age
RIR = Required interest rate
BIR = Current Liability interest rate
VB_{adj} = Adjusted vested benefits
VB_{pay} = Retiree vested benefits
VB_{nonpay} = All other vested benefits

APPLICABLE MORTALITY TABLE UNDER IRC §417(e)(3)
Immediate, Life-Only Annuities Payable Monthly in Advance ($\ddot{a}_x^{(12)}$)

X	5.00%	5.25%	5.50%	5.75%	6.00%	6.25%	6.50%
55	14.35	13.98	13.63	13.29	12.97	12.66	12.36
56	14.10	13.75	13.41	13.08	12.77	12.47	12.19
57	13.85	13.51	13.18	12.87	12.57	12.28	12.00
58	13.59	13.26	12.95	12.64	12.35	12.08	11.81
59	13.32	13.00	12.70	12.41	12.13	11.87	11.61
60	13.04	12.74	12.45	12.17	11.90	11.65	11.40
61	12.75	12.46	12.19	11.92	11.67	11.42	11.19
62	12.46	12.18	11.92	11.67	11.42	11.19	10.96
63	12.15	11.90	11.64	11.40	11.17	10.95	10.73
64	11.85	11.60	11.36	11.13	10.91	10.70	10.49
65	11.53	11.30	11.07	10.86	10.65	10.44	10.25
66	11.22	10.99	10.78	10.57	10.38	10.18	10.00
67	10.89	10.69	10.48	10.29	10.10	9.92	9.74
68	10.57	10.37	10.18	10.00	9.82	9.65	9.48
69	10.24	10.06	9.88	9.70	9.54	9.37	9.21
70	9.91	9.74	9.57	9.41	9.25	9.10	8.95
71	9.58	9.42	9.26	9.11	8.96	8.82	8.68
72	9.25	9.10	8.95	8.81	8.67	8.53	8.40
73	8.91	8.77	8.64	8.50	8.37	8.25	8.12
74	8.58	8.45	8.32	8.20	8.08	7.96	7.85
75	8.25	8.13	8.01	7.90	7.78	7.67	7.57

2002

<u>Data for Question 1</u> (1 point)

Consider the following statement:

> The plan administrator of a defined benefit plan who has filed a required Schedule SSA (Form 5500) to report a deferred vested participant must provide a statement to this participant on or before the date the Schedule SSA is required to be filed, including extensions, that describes the deferred vested retirement benefit and includes the information filed with respect to the participant on the Schedule SSA.

<u>Question 1</u>

Is the above statement true or false?

(A) True

(B) False

2002

Data for Question 2 (1 point)

ABC Company sponsors a 401(k) plan that was effective 1/1/1990. The ABC Company adopted a money purchase plan that was effective 1/1/2002.

Consider the following statement:

> The money purchase plan may provide that service prior to 1/1/2002 is excluded for purposes of vesting.

Question 2

Is the above statement true or false?

(A) True

(B) False

2002

Data for Question 3 (1 point)

Consider the following statement:

A Schedule B must be filed with Form 5500 for all defined benefit plans.

Question 3

Is the above statement true or false?

(A) True

(B) False

2002

<u>Data for Question 4</u> (1 point)

Smith and Jones, Inc. is owned 50% by Smith and 50% by Jones. Smith's daughter is married to Brown. Brown is CEO of Smith and Jones, Inc. and has always earned $40,000 a year.

Consider the following statement:

> Brown is a key employee for top-heavy purposes.

<u>Question 4</u>

Is the above statement true or false?

(A) True

(B) False

Data for Question 5 (1 point)

ABC Company sponsors a plan with a minimum funding requirement for the 2001 plan year of $20,000. ABC Company receives multiple extensions for their 2001 tax return, extending the due date for their tax return past 12/31/2002. The only contribution made during 2001 and 2002 is $25,000 on 11/1/2002.

Consider the following statement:

> ABC Company will have no excise tax liability for a funding deficiency related to the 2001 plan year.

Question 5

Is the above statement true or false?

(A) True

(B) False

<u>Data for Question 6</u> (1 point)

Consider the following statement:

> If the plan year is a calendar year, and the stability period is a calendar quarter, then the lookback month cannot be more than three months preceding the first day of the stability period.

<u>Question 6</u>

Is the above statement true or false?

(A) True

(B) False

2002

Data for Question 7 (1 point)

Consider the following statement:

> For purposes of the minimum funding requirement and the maximum deductible limit for the 2002 plan year, an amendment can be adopted by March 15, 2003 to change the projected benefit (but not less than the benefit accrued as of the date the amendment was adopted.)

Question 7

Is the above statement true or false?

(A) True

(B) False

2002

Data for Question 8 (1 point)

Employer A adopts an unreduced early retirement benefit upon attainment of age 55 and 25 years of service.

Consider the following statement:

> The age and service requirement for this benefit are to be ignored when testing for current availability under IRC section 401(a)(4).

Question 8

Is the above statement true or false?

(A) True

(B) False

2002

Data for Question 9 (1 point)

The plan credits a full year of benefit accrual service upon 1000 hours of employment during the computation period that commences with employment and each anniversary of that date. Active participants under the plan are entitled to a pre-retirement death benefit of $5,000 upon employment. Employee Smith is hired October 15, 2001. As of December 31, 2001 (the snapshot date for the 2002 PBGC premium) Smith has worked 433 hours.

Consider the following statement:

> Employee Smith is not counted as a participant for purposes of computing the plan's 2002 PBGC premium.

Question 9

Is the above statement true or false?

(A) True

(B) False

2002

Data for Question 10 (1 point)

Employer A sponsors a 401(k) plan. Employer B acquires Employer A and continues the 401(k) plan for the remainder of the plan year following the acquisition and then terminates that plan. All employees of Employer A are then covered by Employer B's existing defined benefit plan.

Consider the following statement:

> The $10,000 floor for the defined benefit limitation under IRC section 415 does not apply for employees of Employer A who had participated in the 401(k) plan.

Question 10

Is the above statement true or false?

(A) True

(B) False

2002

Data for Question 11 (1 point)

An employer maintains one defined benefit plan with a calendar plan year. The number of active participants on certain dates was as follows:

01/01/2001	1000
06/30/2001	700
01/01/2002	900

Consider the following statement:

A PBGC reportable event occurred during the plan year beginning 1/1/2001.

Question 11

Is the above statement true or false?

(A) True

(B) False

2002

Data for Question 12 (1 point)

Two employers are members of the same controlled group. Each employer is maintained as a qualified separate line of business, denoted QSLOB A and QSLOB B. QSLOB A maintains a defined benefit plan. QSLOB B maintains a 401(k) plan.

Consider the following statement:

> The employer representing QSLOB B may be held liable for PBGC premiums on the defined benefit plan maintained by the employer representing QSLOB A.

Question 12

Is the above statement true or false?

(A) True

(B) False

Data for Question 13 (1 point)

Consider the following statement:

> The actuary for a multiemployer plan must include an attachment to the Schedule B (Form 5500) showing the funding standard account for each participating employer.

Question 13

Is the above statement true or false?

(A) True

(B) False

Data for Question 14 (3 points)

Data for all employees:

NHCE	Number of Employees	Normal Accrual Rate	Most Valuable Accrual Rate
Group 1	X	1.25%	2.20%
Group 2	Y	1.60%	2.70%
Group 3	Z	1.80%	2.95%
Group 4	15	1.90%	2.40%
Total NHCEs	300		
HCE			
Group 5	35	1.25%	2.20%
Group 6	40	1.50%	2.50%
Group 7	50	1.70%	2.60%
Total HCEs	125		

The result of the Average Benefits Percentage Test is 95%.

Question 14

In what range is the minimum value for Z such that the plan passes the general nondiscrimination test under the regulations of IRC section 401(a)(4)?

(A) Less than 40

(B) 40 but less than 50

(C) 50 but less than 60

(D) 60 but less than 70

(E) 70 or more

Data for Question 15 (3 points)

Plan effective date:	1/1/1993.
Normal retirement benefit:	100% of final 3-year average compensation.
Early retirement age:	Age 60.
Early retirement benefit:	Normal retirement benefit reduced 5% for each year benefits commence before age 65.
Death benefit:	Present value of accrued benefit.

Data for participant Smith:

Date of birth:	12/31/1942
Date of hire:	12/31/1992
Date of retirement:	12/31/2002
Final 3-year average compensation:	\$195,000

Question 15

In what range is Smith's annual retirement benefit?

(A) Less than \$95,000

(B) \$95,000 but less than \$110,000

(C) \$110,000 but less than \$125,000

(D) \$125,000 but less than \$140,000

(E) \$140,000 or more

Data for Question 16 (4 points)

Plan effective date: 1/1/2002.

Benefit formula: 10% of final 3-year average compensation times years of service.

Late retirement benefit: The plan provides for actuarial increases for retirements after normal retirement date.

Death benefit: Present value of accrued benefits.

Actuarial equivalence:

Interest:	Applicable interest rate.
Mortality:	Applicable mortality table.

Applicable interest rate: 5.5% per year.

Data for participant Smith:

Date of birth:	2/1/1932
Date of hire:	2/1/1990
Retirement date:	2/1/2002
Compensation for each year of service:	$35,000

Question 16

In what range is the annual life only benefit that Smith is entitled to receive commencing on 2/1/2002?

(A) Less than $17,000

(B) $17,000 but less than $24,000

(C) $24,000 but less than $31,000

(D) $31,000 but less than $38,000

(E) $38,000 or more

Data for Question 17 (2 points)

Valuation date: 12/31.

Data for participant Smith:

Date of birth	1/1/1935
Date of hire	1/1/1990
Normal retirement date	1/1/1995
Date of termination	7/1/2001

Year	Annual Pension Payments	Present value of accrued benefit as of 12/31 after annual pension payments
1995	$20,000	
1996	20,000	
1997	20,000	
1998	20,000	
1999	20,000	
2000	20,000	$100,000
2001	20,000	85,000
2002	20,000	70,000

Question 17

In what range is the value of Smith's benefit for determining if the plan is top-heavy for the 2002 plan year?

(A) Less than $125,000

(B) $125,000 but less than $150,000

(C) $150,000 but less than $175,000

(D) $175,000 but less than $200,000

(E) $200,000 or more

2002

Data for Question 18 (4 points)

Plan effective date: 1/1/1993.

Normal retirement benefit: 2% of final 3-year average compensation for each year of service with a maximum of 10 years.

Normal retirement age: Age 55.

Optional form of benefit: Lump sum present value of normal retirement benefit.

Actuarial equivalence for lump sum determination:

Prior to 1/1/2000:
- Interest: 5.0% per year.
- Post-retirement mortality: 1983 Individual Annuity Mortality (female)

Amended to apply to all accrued benefits effective 12/31/1999:
- Interest: Applicable interest rate.
- Post-retirement mortality: Applicable mortality table.

Applicable interest rate: 5.5% per year.

Data for participant Smith:

Date of birth:	12/31/1947
Date of hire:	12/31/1990
Retirement date:	12/31/2002
Compensation for each year:	$100,000

Selected annuity value:

5.0% 1983 Individual Annuity Mortality (female) $\ddot{a}_{55}^{(12)} = 15.32$

Question 18

In what range is the lowest lump sum that can be paid to Smith on 12/31/2002?

(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

2002

Data for Question 19 (2 points)

As of 12/31/2002, Plan A is split into Plan B and Plan C. The plan sponsor continues to maintain both Plans B and C.

Selected valuation results as of 12/31/2002:

	Plan A	Plan B	Plan C
Present value of accrued benefits on a termination basis	$250,000	$160,000	$90,000
Current liability (including current year's accrual)	200,000	125,000	75,000
Accrued liability (including normal cost)	280,000	180,000	100,000
Market value of assets	300,000		

Question 19

In what range is the total market value of assets allocated to Plan B as of 12/31/2002?

(A) Less than $124,000

(B) $124,000 but less than $147,000

(C) $147,000 but less than $170,000

(D) $170,000 but less than $193,000

(E) $193,000 or more

Data for Question 20 (2 points)

Consider the following events:

I. A plan merger, consolidation, or spinoff that is not de minimis pursuant to the regulations under IRC section 414(l).

II. The offer by a plan, for a temporary period, to permit participants to retire at benefit levels greater than that to which they would otherwise be entitled.

III. A cost-of-living increase for retirees resulting in an increase of 5% or more in the plan's liability for accrued benefits.

IV. An increase in the plan's actuarial costs (consisting of the plan's normal cost under IRC section 412(b)(2)(A), amortization charges under IRC section 412(b)(2)(B), and amortization credits under IRC section 412(b)(3)(B) of the Code) attributable to a plan amendment unless the cost increase attributable to the amendment is less than 5% of the actuarial costs determined without regard to the amendment.

Question 20

Which of the above statements are Significant Events for PBGC variable premium calculations?

(A) All but I

(B) All but II

(C) All but III

(D) All but IV

(E) All

Data for Question 21 (3 points)

Defined benefit plan termination date: 12/31/2002.

Actuarial (market) value of defined benefit plan assets as of 12/31/2002: $1,200,000.

The employer transfers the required amount to a qualified replacement plan (profit sharing plan) in order to reduce the excise tax on asset reversions.

Participant	Cost of termination benefits	Compensation for first year of qualified replacement plan
Smith	$1,000,000	$120,000
Jones	100,000	55,000

There are no other participants.

There were no earnings on the amount transferred before the allocation to participants. Contributions to the qualified replacement plan are allocated in proportion to compensation.

Question 21

In what range is the minimum first year allocation to Jones of the transferred excess assets?

(A) Less than $1,000

(B) $1,000 but less than $2,500

(C) $2,500 but less than $4,000

(D) $4,000 but less than $5,500

(E) $5,500 or more

2002

Data for Question 22   (5 points)

The employer sponsors two safe harbor plans, both of which cover all employees.

Defined contribution plan:

Allocation formula:	4% of compensation below the Taxable Wage Base plus 5% of compensation in excess of the Taxable Wage Base.

Defined benefit plan:

Benefit formula:	1.0% times [(final 3-year average compensation below Covered Compensation) times service up to 40 years] plus X% times [(final 3-year average compensation over Covered Compensation) times service up to 40 years].
Permitted disparity factor:	A single factor is used for all employees.
Early retirement benefit:	Normal retirement benefit reduced 4% for each year benefits commence before age 65.
Early retirement eligibility:	Age 62.

Question 22

In what range is the largest value of X%?

(A) Less than 1.38%

(B) 1.38% but less than 1.42%

(C) 1.42% but less than 1.46%

(D) 1.46% but less than 1.50%

(E) 1.50% or more

Data for Question 23 (3 points)

Type of plan: Multiemployer.

Plan provisions:

Eligibility: Entry after 1,000 hours of service in a 12 month period.

Vesting: 5 year cliff.

Companies A and B are participating employers in Plan X.

Consider the following statements regarding Smith and Jones:

I. If Smith works for Company A for 3 years, terminates employment and works for Company B for 4 years, and then returns to Company A, then Smith first becomes vested in his Company A benefit upon his return to Company A.

II. Company A is only responsible for liabilities for Company A employees.

III. If Jones, initially hired in 2001, works for Company A for 700 hours from January 1, 2002 to June 1, 2002 and works for Company B for 400 hours from October 1, 2002 to December 31, 2002, then Jones is a participant in Plan X in 2002.

Question 23

Which, if any, of the above 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 24 (4 points)

A plan reflects the top paid group election.

Consider the following data for employees hired prior to 2001:

	2001 Compensation	2002 Compensation	2001 5% owner	2002 5% owner
EE1	$108,000	$112,000	Yes	Yes
EE2	105,000	100,000		
EE3	104,000	110,000	Yes	Yes
EE4	100,000	101,000		
EE5	90,000	60,000		
EE6	89,000	93,000		
EE7	87,000	100,000		
EE8	86,000	115,000		
EE9	70,000	101,000		Yes
EE10	65,000	90,000		

Employees not included above:

Date of hire	Union	Non-union
06/01/2001	5	10
10/01/2001	5	10
08/01/2002	2	4

All employees are over the age of 21, work 40 hours per week and unless otherwise indicated, have compensation less than $60,000. No employees terminated during 2001 or 2002.

Question 24

How many employees are considered highly compensated employees for the 2002 year?

(A) 5

(B) 6

(C) 7

(D) 8

(E) 9

Data for Question 25 (4 points)

Selected valuation results as of 12/31/2001:

Accrued liability (including current year normal cost)	$ 3,100,000
Actuarial value of assets	3,400,000
Market value of assets	3,300,000
Funding standard account credit balance	300,000
OBRA'87 current liability (including current year increase)	4,000,000
RPA'94 current liability (including current year increase)	4,250,000

Question 25

In what range is the smallest employer contribution for the 2001 plan year in order for the PBGC full funding exemption to apply for determining the PBGC premium for the 2002 plan year?

(A) Less than $110,000

(B) $110,000 but less than $210,000

(C) $210,000 but less than $310,000

(D) $310,000 but less than $410,000

(E) $410,000 or more

2002

Data for Question 26 (4 points)

Multiemployer plan that has never been insolvent.

Benefit formula:	$10 for all years of service prior to 1/1/1983.
	$25 for all years of service from 1/1/1983 to 12/31/1992.
	$65 for all years of service after 12/31/1992.

Data for active participant Smith:

Date of birth	1/1/1938
Date of entry	1/1/1973
Years of accrual service as of 12/31/2002	30

Question 26

In what range is the maximum benefit guaranteed by the PBGC for participant Smith as of 12/31/2002?

(A) Less than $500

(B) $500 but less than $600

(C) $600 but less than $700

(D) $700 but less than $800

(E) $800 or more

Data for Question 27 (5 points)

Employer A sponsors a defined benefit plan for all employees.

Testing assumptions and parameters:

Measurement period:	Current year and all prior years.
Testing age:	65
Testing basis:	Benefits basis.
Permitted disparity:	Maximum imputed (simplified table not used).

Consider the following employee data:

Employee	SSRA	Years of testing service	Covered Compensation	Average annual compensation	Unadjusted normal accrual rate	Unadjusted most valuable accrual rate
HCE 1	65	45	$36,000	$160,000	1.20%	2.00%
NHCE 1	65	40	36,000	40,000	0.80%	1.50%
NHCE 2	66	30	60,000	65,000	0.80%	1.50%
NHCE 3	67	25	75,000	30,000	0.70%	1.40%

The employer has not elected to group accrual rates.

Question 27

Which, if any, NHCEs are included in the rate group formed by HCE 1?

(A) NHCE 1 only

(B) NHCE 2 only

(C) NHCE 3 only

(D) NHCE 1, NHCE 2, and NHCE 3

(E) The correct answer is not given by (A), (B), (C), or (D) above

2002

Data for Question 28 (4 points)

Plan effective date: 1/1/1974.

Eligibility requirements:

Participation: 1 year of service.

Benefit accrual: 1,000 hours of service for each year of plan participation.

Entry date: January 1st nearest completion of eligibility requirements.

Plan year	Top-heavy ratio on valuation date	Smith's compensation
1989	55%	$20,000
1990	55%	20,000
1991	62%	20,000
1992	62%	25,000
1993	62%	30,000
1994	62%	30,000
1995	62%	25,000
1996	55%	25,000
1997	62%	30,000
1998	62%	25,000
1999	62%	20,000
2000	55%	30,000
2001	62%	45,000

Data for participant Smith:

Date of birth:	1/1/1955
Date of hire:	10/1/1988
Termination of employment:	12/31/2001

Question 28

In what range is the minimum top-heavy accrued benefit as of 12/31/2001 for Smith?

(A) Less than $4,500

(B) $4,500 but less than $5,000

(C) $5,000 but less than $5,500

(D) $5,500 but less than $6,000

(E) $6,000 or more

2002

Data for Question 29 (4 points)

Plan effective date: 1/1/1992.

Early retirement eligibility: Age 55.

Optional form of benefit: Lump sum distribution of normal retirement benefit.

Death benefit: Present value of accrued benefit.

Actuarial equivalence:

Post-retirement interest:	6.0% per year.
Pre-retirement mortality:	None.
Post-retirement mortality:	Applicable mortality table.

Applicable interest rate: 5.5% per year.

Data for participant Smith:

Date of birth:	1/1/1947
Date of hire:	1/1/1992
Date of benefit commencement:	1/1/2002
Average compensation:	$200,000
Benefit prior to application of IRC section 415 limits:	230,000

Question 29

In what range is Smith's maximum lump sum benefit payable on 1/1/2002?

(A) Less than $1,200,000

(B) $1,200,000 but less than $1,250,000

(C) $1,250,000 but less than $1,300,000

(D) $1,300,000 but less than $1,350,000

(E) $1,350,000 or more

<u>Data for Question 30</u> (4 points)

Two plans merge with the following schedules at merger.

	Plan A	Plan B
Assets at Merger	$250,000	$200,000

Schedule of annual benefits:

	Plan A			Plan B		
Priority category	EE1	EE2	EE3	EE4	EE5	EE6
3	$15,000			$10,000	$5,000	
4	5,000	$4,000			2,000	$3,000
5		2,000	$1,000			

Schedule of present values:

	Plan A			Plan B		
Priority category	EE1	EE2	EE3	EE4	EE5	EE6
3	$150,000			$120,000	$50,000	
4	50,000	$44,000			20,000	$30,000
5		22,000	$15,000			

<u>Question 30</u>

In what range is the total amount of benefits that must be scheduled for preservation in the special schedule of benefits under the regulations to IRC section 414(*l*)?

(A) Less than $2,000

(B) $2,000 but less than $4,000

(C) $4,000 but less than $6,000

(D) $6,000 but less than $8,000

(E) $8,000 or more

2002

Data for Question 31 (3 points)

Plan effective date: 1/1/1980.

Plan termination date: 7/1/2001.

Data for participant Smith:

Date of birth:	7/1/1940
Date of retirement:	7/1/2000
High 5 year average monthly compensation:	$4,000
Monthly benefit under formula effective 1/1/1996:	$1,500
Monthly benefit under formula effective 1/1/1998:	$2,100
Monthly benefit under formula effective 1/1/2000:	$2,500
Form of annuity:	Joint & 50% contingent
Spouse's date of birth	7/1/1940

Smith is not a substantial owner.

Maximum monthly PBGC guaranteed benefit at 65: $3,392.05.

Question 31

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

(A) Less than $1,700

(B) $1,700 but less than $1,800

(C) $1,800 but less than $1,900

(D) $1,900 but less than $2,000

(E) $2,000 or more

2002

Data for Question 32 (4 points)

The employer sponsors a safe harbor floor offset plan and a profit sharing plan with a 401(k) provision.

Plan effective date: 01/01/1997

Defined benefit formula before offset: 3% of average annual compensation times years of service.

Optional form of benefit: Lump sum

Actuarial equivalence (defined benefit plan and 401(k) profit sharing plan):

Pre-retirement interest	8.5%
Pre-retirement mortality	None.
Post-retirement interest	7.5%
Post-retirement mortality	Applicable mortality table.

Applicable interest rate for lump sum distributions during the 2002 plan year: 5.5%.

Data for participant Smith:

Date of birth:	01/01/1950
Date of hire:	01/01/1997
Date of termination:	12/31/2001
Average annual compensation:	$50,000
Vested profit sharing balance at 01/01/2002:	$10,000
401(k) balance at 01/01/2002:	$6,000

Question 32

In what range is the lump sum benefit payable to Smith from the defined benefit plan as of 1/1/2002?

(A) Less than $15,000

(B) $15,000 but less than $25,000

(C) $25,000 but less than $35,000

(D) $35,000 but less than $45,000

(E) $45,000 or more

Data for Question 33 (4 points)

Plan year for which PBGC premium is due: 2002.

Interest rates:

Current liability:	6.00%
Valuation:	7.00%
Required interest rate:	4.75%

Assumed retirement age: 65

Actuarial valuation date: 12/31/2001.

Actuarial value of assets: $5,030,000.

Excerpt from the 2001 Schedule B (Form 5500):

Operational information as of beginning of this plan year:			
Current value of assets (see instructions)		2a	5,000,000
"RPA '94" current liability:	(1) No. of Persons	(2) Vested Benefits	(3) Total Benefits
(1) For retired participants and beneficiaries receiving payments	100	1,000,000	1,000,000
(2) For terminated vested participants	80	260,000	260,000
(3) For active participants	1,880	3,000,000	3,100,000
(4) Total	2,060	4,260,000	4,360,000

Employer contributions:

For the 2000 plan year deposited 9/15/2001:	$200,000
For the 2001 plan year deposited 6/01/2002:	$150,000

Question 33

In what range is the 2002 variable rate premium using the alternative calculation method?

(A) Less than $4,000

(B) $4,000 but less than $4,100

(C) $4,100 but less than $4,200

(D) $4,200 but less than $4,300

(E) $4,300 or more

2002

Data for Question 34 (3 points)

An employer establishes a new defined benefit plan with the following benefit formula:

$50 per month for the first year of participation; plus

$8 per month for each year of participation from year 2 to year 11; plus

$10 per month for each year of participation from year 12 to year 25; plus

$X per month for each year of participation from year 26 to year 30.

Question 34

In what range is the maximum value of $X using the “3-percent method” of IRC section 411(b)(1)(A)?

(A) Less than $12

(B) $12 but less than $14

(C) $14 but less than $16

(D) $16 but less than $18

(E) $18 or more

2002

Data for Question 35 (2 points)

Consider the following statements:

(I) An enrolled actuary must notify the appropriate government agency(ies) when he is aware that a Schedule B that he prepared and signed for a plan was not filed but was replaced by a subsequent Schedule B prepared and signed by another enrolled actuary.

(II) An enrolled actuary must not perform any actuarial service where there is a known conflict of interest with respect to the performance of such service.

(III) All reports prepared by an enrolled actuary that detail actuarial costs and liabilities must describe the data, methods, and assumptions used.

Question 35

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.

2002

Data for Question 36 (5 points)

A controlled group is composed of Companies A, B, and C. Company A sponsors a defined benefit plan. Company B sponsors a defined contribution plan. Company C has no plan.

Defined benefit plan eligibility: 1 year of service.

Defined contribution plan eligibility: 6 months of service and attainment of age 21

No employee is covered by more than one plan.

The following data was used in a nondiscrimination test for 2002:

Company	# of employees	Age	Service	HCE Status	Equivalent accrual rate
A	100	20	3 months	NHCE	0%
A	100	30	6 months	NHCE	0%
A	100	30	5 Years	NHCE	4%
A	100	40	15 Years	NHCE	4%
A	200	40	15 Years	HCE	3%
B	200	20	1 Year	NHCE	0%
B	400	40	15 Years	NHCE	3%
B	100	30	6 months	NHCE	4%
C	100	30	6 months	NHCE	0%
C	100	30	5 Years	NHCE	0%

Otherwise excludable employees are not tested separately.

Question 36

Which one of the following statements describes the results of the IRC section 410(b) testing of Plan A for 2002 solely based on the above data?

(A) Plan A passes the Ratio Percentage Test, and therefore passes IRC section 410(b).

(B) Plan A fails the Ratio Percentage Test, but passes the Average Benefits Test and therefore passes IRC section 410(b).

(C) Plan A fails the Ratio Percentage Test, but passes the Ratio Percentage Test when aggregated with Plan B and therefore passes IRC section 410(b).

(D) Plan A passes IRC section 410(b) only when it is aggregated with Plan B and uses the Average Benefits Test.

(E) The correct answer is not given by (A), (B), (C), or (D) above.

2002

Data for Question 37 (2 points)

Consider the following three vesting schedules with respect to a defined benefit plan:

I. For each employment year where a participant exceeds 1,000 hours, a year of vesting service is earned.

Years of Service	Nonforfeitable Percentage
4	33.3%
5	66.7%
6	100.0%

II. A participant is 100% vested only if he completes 5 full calendar years of service.

III. Plan Year: January 1 through December 31
Vesting Year Determination: One year of vesting service if a participant works at least 1,000 hours during each year beginning August 1 and ending July 31

Years of Service	Nonforfeitable Percentage
3	10%
4	10%
5	100%

Question 37

Which of the following vesting schedules, if any, are acceptable under IRC section 411?

(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 38 (4 points)

Type of plan: Multiemployer.

Plan effective date: 1/1/1987.

Withdrawal liability method: Rolling Five (One Pool).

History of contribution base units and contributions:

Year	Employer A Contribution Base Units	Employer A Contributions	All Employer Contributions	End of Year Unfunded Present Value of Vested Benefits
1987	350,000	$175,000	$700,000	$1,000,000
1988	350,000	175,000	700,000	1,250,000
1989	325,000	162,500	700,000	1,450,000
1990	325,000	162,500	750,000	1,700,000
1991	305,000	152,500	750,000	1,900,000
1992	305,000	152,500	750,000	2,200,000
1993	280,000	140,000	800,000	1,900,000
1994	270,000	135,000	800,000	2,300,000
1995	230,000	115,000	800,000	2,400,000
1996	110,000	55,000	750,000	2,400,000
1997	110,000	55,000	750,000	2,200,000
1998	90,000	45,000	725,000	2,500,000
1999	70,000	35,000	725,000	2,100,000
2000	70,000	35,000	750,000	2,000,000
2001	70,000	35,000	725,000	1,800,000
2002	78,000	39,000	725,000	2,000,000

There have been no withdrawals from this plan since its inception.

Question 38

In what range is Employer A’s partial withdrawal liability on the date of the partial withdrawal?

(A) Less than $115,000

(B) $115,000 but less than $130,000

(C) $130,000 but less than $145,000

(D) $145,000 but less than $160,000

(E) $160,000 or more

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Answer Key - corrected

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