

**SOCIETY OF ACTUARIES**  
**AMERICAN SOCIETY OF PENSION ACTUARIES**  
**JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES**

**ENROLLED ACTUARIES PENSION EXAMINATION, SEGMENT B**

**MAY 2006 EA-2, SEGMENT B, EXAMINATION**

**LIMITS, TABLES AND FORMULAS**  
**(Included with the 2006 EA-2 (Segment B) examination)**

<b>Compensation Limit IRC section 401(a)(17)</b>	
<u>Year</u>	<u>Limit</u>
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
2002-2003	200,000
2004	205,000
2005	210,000
2006	220,000

<b>Maximum Benefit Limit IRC section 415(b)</b>	
<u>Year</u>	<u>Limit at SSRA</u>
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
<u>Year</u>	<u>Limit at 65</u>
2002-2003	160,000
2004	165,000
2005	170,000
2006	175,000

<b>Highly Compensated Employee Compensation IRC section 414(q)</b>	
<u>Year</u>	<u>Limit</u>
1997-1999	80,000
2000-2001	85,000
2002-2004	90,000
2005	95,000
2006	100,000

<b>Nondiscriminatory Classification Test IRC section 410(b)</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**  
**(Included with the 2006 EA-2 (Segment B) examination)**

<b>Permitted Disparity Tables IRC section 401(l)</b>				
Annual factor in maximum excess allowance and maximum offset allowance percent				
Age at benefit <u>Commencement</u>	<u>SSRA 65</u>	<u>SSRA 66</u>	<u>SSRA 67</u>	Simplified <u>Table</u>
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

<b>FICA Taxable Wage Base</b>	
<u>Year</u>	<u>Limit</u>
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
2003	87,000
2004	87,900
2005	90,000
2006	94,200

<b>Key Employee Compensation IRC section 416</b>		
<u>Year</u>	<u>Officer</u>	<u>1% owner</u>
2003	130,000	150,000
2004	130,000	150,000
2005	135,000	150,000
2006	140,000	150,000

**LIMITS, TABLES AND FORMULAS**  
(Included with the 2006 EA-2 (Segment B) examination)

<b>Maximum PBGC Guaranteed Life-Only Annuity at Age 65</b>	
<u>Year</u>	<u>Monthly Benefit</u>
1999	3,051.14
2000	3,221.59
2001	3,392.05
2002	3,579.55
2003	3,664.77
2004	3,698.86
2005	3,801.14
2006	3,971.59

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

<b>Commencement Age</b>	
<u>Age</u>	<u>Factor</u>
75	3.04
74	2.76
73	2.48
72	2.21
71	1.93
70	1.66
69	1.49
68	1.34
67	1.21
66	1.10
65	1.00
64	0.93
63	0.86
62	0.79
61	0.72
60	0.65
59	0.61
58	0.57
57	0.53
56	0.49
55	0.45
54	0.43
53	0.41
52	0.39
51	0.37
50	0.35
49	0.33
48	0.31
47	0.29
46	0.27
45	0.25

<b>Form of Payment Certain &amp; Life*</b>	
<u>Years</u>	<u>Factor</u>
1	0.995
2	0.990
3	0.985
4	0.980
5	0.975
6	0.965
7	0.955
8	0.945
9	0.935
10	0.925
*Reduction decreases by 0.01 per year in excess of 10.	

<b>Form of Payment Joint &amp; Contingent</b>		
<u>Percent</u>	<u>Factor</u>	<u>with 10 yr Certain</u>
50%	0.900	× 0.960
66 2/3 %	0.867	× 0.970
75%	0.850	× 0.975
100%	0.800	× 0.990

<b>Form of Payment Joint &amp; Survivor</b>	
<u>Percent</u>	<u>Factor</u>
50%	1.00
66 2/3 %	0.93
75%	0.90
100%	0.80

<b>Age Difference For J&amp;S Beneficiary</b>		
<u>Difference</u>	<u>Younger</u>	<u>Older</u>
1	0.99	1.005
2	0.98	1.010
3	0.97	1.015
4	0.96	1.020
5	0.95	1.025
6	0.94	1.030
7	0.93	1.035
8	0.92	1.040
9	0.91	1.045
10	0.90	1.050

**LIMITS, TABLES AND FORMULAS**  
**(Included with the 2006 EA-2 (Segment B) examination)**

**PBGC ADJUSTMENTS TO VESTED BENEFITS TO DETERMINE VARIABLE PREMIUM**

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

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

2006

Data for Question 1 (1 point)

Consider the following statement:

The annual defined benefit dollar limit as described in IRC section 415(b)(1)(A) is not adjusted for the value of the survivor portion of a 100% qualified joint and survivor annuity.

Question 1

Is the above statement true or false?

- (A) True
- (B) False

2006

Data for Question 2 (1 point)

After the merger of two plans, the assets are not sufficient to cover all accrued benefits.

Consider the following statement:

A special schedule of benefits as described in Regulation 1.414(l) need not be prepared prior to finalizing the merger.

Question 2

Is the above statement true or false?

(A) True

(B) False

2006

Data for Question 3 (2 points)

A plan reported a participant count of 2,500 participants on the 2005 PBGC Form 1.

The plan pays an estimated premium equal to 2,500 multiplied by the applicable flat rate premium with the 2006 PBGC Form 1-ES. The form is filed by the first filing due date.

The actual participant count for the 2006 premium payment year is 2,600 participants.

The plan files the 2006 PBGC Form 1 with the correct amount due by the final filing due date.

Consider the following statement:

There will be no late payment penalty and no interest charges due.

Question 3

Is the above statement true or false?

(A) True

(B) False



2006

Data for Question 4 (1 point)

Enrolled actuary Smith prepares and signs a Schedule B for 2006 and sends it to the plan administrator for filing. Smith is later informed that the plan administrator had retained the services of enrolled actuary Jones to prepare the 2006 Schedule B and the Schedule B signed by Smith was never filed.

Consider the following statement:

Smith is required to report that the Schedule B prepared and signed by Smith was never filed.

Question 4

Is the above statement true or false?

- (A) True
- (B) False

2006

Data for Question 5 (1 point)

A plan is not covered by the PBGC and terminates 80% funded on a termination basis.

Consider the following statement:

Each participant in the plan may receive less than 100% of the present value of his or her accrued benefit.

Question 5

Is the above statement true or false?

(A) True

(B) False

2006

Data for Question 6 (1 point)

An excise tax is imposed on each prohibited transaction of a multiemployer plan.

Consider the following statement:

This excise tax is required to be paid by the multiemployer plan.

Question 6

Is the above statement true or false?

(A) True

(B) False

2006

Data for Question 7 (1 point)

Consider the following statement:

IRC section 401(a)(26) requires that a defined benefit pension plan benefit at least the lesser of:

- (1) 50 non-highly compensated employees of the plan sponsor, or
- (2) The greater of:
  - (i) 40% of the non-highly compensated employees of the plan sponsor; or
  - (ii) 2 employees of the plan sponsor (or if there is only one employee, such employee).

Question 7

Is the above statement true or false?

- (A) True
- (B) False

2006

Data for Question 8 (1 point)

A plan uses the elapsed time method to determine vesting.

Consider the following statement:

An employee may not be credited with a year of vesting service even though the employee may be credited with 1000 or more hours of service.

Question 8

Is the above statement true or false?

- (A) True
- (B) False

2006

Data for Question 9 (1 point)

The IRC section 415 dollar limitation on benefits paid from defined benefit plans is periodically adjusted to reflect cost-of-living increases.

Consider the following statement:

Such increases, when they occur, are effective 1/1 of a given calendar year and apply with respect to limitation years beginning within that calendar year.

Question 9

Is the above statement true or false?

- (A) True
- (B) False

2006

Data for Question 10 (1 point)

A plan defines its qualified joint and survivor annuity as a 75% qualified joint and survivor annuity.

Consider the following statement:

The plan may define its qualified preretirement survivor annuity (i.e., the death benefit) as the survivor portion of a 100% joint and survivor annuity.

Question 10

Is the above statement true or false?

(A) True

(B) False

2006

Data for Question 11 (1 point)

Vesting schedule:

<u>Years of service</u>	<u>Vested percentage</u>
1	17%
2	33%
3	50%
4	67%
5	83%
6	100%

Consider the following statement:

The above vesting schedule satisfies the vesting requirements for a top-heavy defined benefit plan.

Question 11

Is the above statement true or false?

- (A) True
- (B) False



2006

Data for Question 12 (1 point)

An employer terminates a money purchase plan in 2006. The employer replaces the money purchase plan with a defined benefit plan that pays a \$10,000 annual benefit beginning at age 60.

Consider the following statement:

After application of the benefit limitations under IRC section 415, all employees age 60 with 10 years of service are immediately eligible to receive the full \$10,000 annual benefit upon retirement.

Question 12

Is the above statement true or false?

- (A) True
- (B) False

2006

Data for Question 13 (1 point)

Company A sponsors a defined benefit plan. During 2005, the only two plan participants are the sole owner and an assistant.

On 12/1/2005, the assistant terminates employment and his vested accrued benefit is paid as a lump sum on 1/15/2006. The only plan participant for the remainder of 2006 is the owner.

Consider the following statement:

The plan sponsor must pay the 12-month annual 2006 PBGC premium, and the PBGC will refund a pro-rata portion of the 2006 premium for the period 1/16/2006 to 12/31/2006 upon request.

Question 13

Is the above statement true or false?

(A) True

(B) False

2006

Data for Question 14 (2 points)

Type of plan: Multiemployer.

Employer A's year of partial withdrawal: 2002.

Contribution base units for the high base year prior to year of withdrawal: 325,000.

History of contribution base units for Employer A:

<u>Plan year</u>	<u>Base units</u>
2003	275,000
2004	295,000
2005	300,000

Employer A has always been current with its partial withdrawal liability payments.

Consider the following statement:

Beginning in 2006, Employer A has no obligation to make payments with respect to its partial withdrawal.

Question 14

Is the above statement true or false?

(A) True

(B) False

2006

Data for Question 15 (1 point)

Consider the following statement:

The excise tax imposed on an employer reversion from a qualified plan must be paid by the due date of the Form 5500 for the year in which the reversion occurred.

Question 15

Is the above statement true or false?

- (A) True
- (B) False

2006

Data for Question 16 (1 point)

An enrolled actuary prepares the PBGC Form 1 for a multiemployer plan and sends it to the Plan Administrator for filing. The Plan Administrator never files the form with the PBGC.

Consider the following statement:

The actuary must notify the PBGC upon learning that the PBGC Form 1 was not filed.

Question 16

Is the above statement true or false?

- (A) True
- (B) False

2006

Data for Question 17 (2 points)

Entry dates: 1/1 and 7/1.

Number of active participants at selected dates:

<u>Date</u>	<u>Number of active participants</u>
12/31/2004	800
6/30/2005	680
12/31/2005	650
6/30/2006	760

Based on its assets and liabilities, the plan does not qualify for plan funding-based waivers for reporting a reduction in active participants to the PBGC.

Question 17

In what range is the smallest number of active participants at 12/31/2006 such that the plan does not have an “Active Participant Reduction” reportable event with respect to the 2006 plan year?

- (A) Less than 545
- (B) 545 but less than 575
- (C) 575 but less than 605
- (D) 605 but less than 635
- (E) 635 or more

2006

Data for Question 18 (2 points)

Employee Smith is a participant in three defined benefit plans maintained by Smith's employer.

<u>Plan</u>	<u>Type</u>	<u>Accrued benefit</u>
A	Multiemployer	Maximum permitted under IRC section 415
B	Multiemployer	\$31,000
C	Single employer	27,000

Normal retirement age for all three plans: 62.

Data for participant Smith as of 12/31/2006:

Years of participation	10
Highest 3-year average compensation	\$155,000

Smith commences benefits from Plan A on 12/31/2006 at age 62.

Question 18

In what range is the maximum annual benefit that Smith may receive from Plan A as a life annuity?

- (A) Less than \$120,000
- (B) \$120,000 but less than \$130,000
- (C) \$130,000 but less than \$140,000
- (D) \$140,000 but less than \$150,000
- (E) \$150,000 or more

2006

Data for Question 19 (3 points)

Selected valuation results as of 1/1/2006:

Current liability	\$1,350,000
Market value of plan assets	1,375,000
Actuarial value of plan assets	1,400,000

Data for HCE participant Smith:

Date of birth	1/1/1941
Date of retirement	1/1/2006
Monthly accrued benefit as of 1/1/2006	\$7,000
Lump sum equivalent	950,000
Current liability attributed to Smith's benefit	925,000

Number of employees: 5.

No employees terminated prior to 1/1/2006.

Smith would like to take a lump sum distribution without entering into an escrow agreement or posting a bond.

Question 19

In what range is the maximum amount payable to Smith in 2006?

- (A) Less than \$100,000
- (B) \$100,000 but not more than \$300,000
- (C) \$300,000 but not more than \$500,000
- (D) \$500,000 but not more than \$700,000
- (E) \$700,000 or more



2006

Data for Question 20 (3 points)

Plan effective date: 1/1/1976.

Normal retirement benefit: 1% of final average compensation for each year of service.

Early retirement eligibility: Age 55 and 5 years of service.

Early retirement reduction: 3% for each year prior to age 65.

Data for participant Smith:

Date of birth	1/1/1958
Date of hire	1/1/1996
Date of death	12/31/2005
Spouse's date of birth	1/1/1960
Date of marriage	7/1/2005
Final average compensation at date of death	\$42,500

The minimum qualified pre-retirement spouse annuity under IRC section 417 will commence on the latest date allowed under the law.

The plan specifies the following factors to convert the normal form of benefit to a joint and survivor annuity:

33 1/3% joint and survivor	0.95
50% joint and survivor	0.85
100% joint and survivor	0.70

Question 20

In what range is the monthly benefit payable to Smith's spouse at the earliest commencement date allowed under the plan?

- (A) Less than \$50
- (B) \$50 but less than \$100
- (C) \$100 but less than \$150
- (D) \$150 but less than \$200
- (E) \$200 or more

2006

Data for Question 21 (3 points)

An employer is offering an early retirement window to those 55 years of age and older who have completed 20 years of service. The window will be available from 12/31/2005 through 12/31/2006.

Information about all plan participants as of 12/31/2005:

		Number of:	
<u>Age</u>	<u>Service</u>	<u>HCEs</u>	<u>NHCEs</u>
25	5	25	200
35	12	25	200
54	18	25	125
54	19	50	100
55	20	50	25
56	18	25	150

Testing date: 12/31/2005.

Question 21

In what range is the ratio percentage for the early retirement window for 2005?

- (A) Less than 10%
- (B) 10% but less than 30%
- (C) 30% but less than 50%
- (D) 50% but less than 70%
- (E) 70% or more

2006

Data for Question 22 (2 points)

Employer A sponsors Plan A.

Employer B sponsors Plan B.

Both plans use the 1,000 hour rule for vesting.

On 7/1/2002 Employer A purchases Employer B and amends Plan A to exclude all employees of Employer B.

Employer A terminates Plan B on 1/1/2003.

Employer A amends Plan A to include all employees of Employer B on 1/1/2005.

Data for participant Smith:

Date of birth	1/1/1979	
Date of hire	1/1/2001	
<u>12 months ending</u>	<u>Hours worked</u>	<u>Employer</u>
12/31/2001	1,000	B
12/31/2002	750	B
12/31/2002	500	A
12/31/2003	1,000	A
12/31/2004	1,000	A
12/31/2005	1,000	A
12/31/2006	1,000	A

Question 22

In what range is the minimum number of years of vesting service Smith has earned in Plan A at the end of the plan year ending in 2006?

- (A) Less than 3
- (B) 3
- (C) 4
- (D) 5
- (E) 6 or more

2006

Data for Question 23 (3 points)

Data for defined benefit pension plan:

Effective date of plan	1/1/2002
Plan benefit formula	100% of highest 3-year average compensation

The plan incorporates the \$10,000 minimum benefit when applying the IRC section 415 limits.

Data for participant Smith at retirement:

Date of birth	1/1/1941
Date of hire	1/1/2002
Date of participation	1/1/2003
Date of retirement	1/1/2006
Qualified profit sharing plan account balance	\$4,200
Highest 3-year average compensation	\$8,000

Question 23

In what range is the maximum annual annuity benefit payable to Smith from the defined benefit plan commencing 1/1/2006?

- (A) Less than \$2,600
- (B) \$2,600 but less than \$3,100
- (C) \$3,100 but less than \$3,600
- (D) \$3,600 but less than \$4,100
- (E) \$4,100 or more

2006

Data for Question 24 (3 points)

Current plan: Defined benefit plan with an effective date of 1/1/2003.

Prior plan: Profit sharing plan with an effective date of 1/1/2000 and a termination date of 12/31/2002.

Vesting service: One year for each vesting computation period in which an employee earns at least 1,000 hours of service.

Vesting computation period: 12-month period beginning on the first day of the plan year.

Data for participant Smith:

Date of birth 1/1/1981  
Date of hire 1/1/1998

Year <u>ending</u>	Hours of <u>service</u>
12/31/1998	1,000
12/31/1999	1,000
12/31/2000	1,000
12/31/2001	1,000
12/31/2002	450
12/31/2003	375
12/31/2004	210
12/31/2005	475
12/31/2006	1,000

Question 24

What is the minimum number of years of vesting service that must be counted for Smith through 2006?

- (A) 2 or less
- (B) 3
- (C) 4
- (D) 5
- (E) 6 or more

## 2006

### Data for Question 25 (4 points)

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

Early retirement age: Age 55 and 5 years of service.

Early retirement reduction:

Prior to 2002	6% per year prior to age 65
After 2001	2% per year prior to age 65 (adopted 1/1/2002)

Date of plan termination: 1/1/2006.

Participant data for participant Smith, who is not a substantial owner:

Date of birth	1/1/1947
Date of hire	1/1/1980
Date of retirement	12/31/2005
Form of payment	Life only

Compensation:

1997	\$30,000
1998	35,000
1999	40,000
2000	45,000
2001	50,000
2002	55,000
2003	65,000
2004	70,000
2005	75,000

### Question 25

In what range is the annual annuity benefit assigned to priority category 4 for participant Smith?

- (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

2006

Data for Question 26 (4 points)

Plan A: Defined benefit plan for salaried employees.

Plan B: Defined contribution plan for salaried employees.

Plan C: Defined contribution plan for hourly employees.

All plans are permissively aggregated for coverage and non-discrimination testing and then restructured into component Plans X and Y as follows:

Plan X            Only hourly employees

Plan Y            All salaried employees and a select number of hourly employees

Testing method for non-discrimination:

Component Plan X    Tested on a contributions basis

Component Plan Y    Tested on a benefits basis

Plan year compensation: Compensation within the meaning of IRC Section 415(c)(3).

The aggregated plan is not primarily defined benefit in character. Plan A and aggregated Plans B and C are not broadly available separate plans.

The highest aggregate normal allocation rate for any HCE in component Plan X is 22%.

The highest aggregate normal allocation rate for any HCE in component Plan Y is 27%.

Question 26

In what range is the lowest permissible aggregate normal allocation rate for any NHCE in component Plan X?

- (A)    Less than 4.80%
- (B)    4.80% but less than 5.30%
- (C)    5.30% but less than 5.80%
- (D)    5.80% but less than 6.30%
- (E)    6.30% or more

## 2006

### Data for Question 27 (4 points)

A controlled group is made up of Companies A and B.

Company A sponsors Plan A and Company B sponsors Plan B.

Valuation interest rate (both plans): 8.00%.

Required Interest Rate (both plans): 4.25%.

Selected valuation results as of 12/31/2005:

<u>Current liability determined using:</u>	<u>Plan A</u>	<u>Plan B</u>
Required Interest Rate for variable rate premium	\$310,000,000	\$55,000,000
Current liability interest rate	296,000,000	52,000,000
<u>Vested current liability determined using:</u>	<u>Plan A</u>	<u>Plan B</u>
Required Interest Rate for variable rate premium	\$300,000,000	\$50,000,000
Current liability interest rate	285,000,000	48,000,000
<u>Plan termination liability determined under</u> <u>ERISA section 4010:</u>	<u>Plan A</u>	<u>Plan B</u>
	\$335,000,000	\$54,000,000
<u>Plan assets (without receivable contributions):</u>	<u>Plan A</u>	<u>Plan B</u>
Market value	\$260,000,000	\$46,000,000
Actuarial value	240,000,000	53,000,000

On 4/15/2006 Company A makes the smallest possible contribution for Plan A for the 2005 plan year that enables it to avoid the ERISA section 4010 filing.

### Question 27

In what range is this additional contribution?

- (A) Less than \$5,100,000
- (B) \$5,100,000 but less than \$10,100,000
- (C) \$10,100,000 but less than \$15,100,000
- (D) \$15,100,000 but less than \$20,100,000
- (E) \$20,100,000 or more



2006

Data for Question 28 (3 points)

Plan effective date: 1/1/2005.

Normal retirement benefit: 25% of highest 3-year average compensation.

Normal form of payment: Life annuity with 20 years certain.

Early retirement age: 50.

Early retirement benefit: Normal retirement benefit unreduced for participants with 25 or more years of service.

Death benefit: Present value of accrued benefit.

Data for participant Smith:

Date of birth	1/1/1952
Date of hire	1/1/1979
Date of retirement	1/1/2006
Compensation for all years	\$40,400

Smith's employer has never maintained a defined contribution plan.

Selected annuity factors at mandated mortality and interest rate:

$$\ddot{a}_{54}^{(12)} = 14.82 \quad \ddot{a}_{62}^{(12)} = 12.68 \quad \ddot{a}_{65}^{(12)} = 11.79 \quad \ddot{a}_{\overline{54:20}|}^{(12)} = 15.50$$

Question 28

In what range is the maximum annual benefit payable to Smith at 1/1/2006?

- (A) Less than \$9,675
- (B) \$9,675 but less than \$9,875
- (C) \$9,875 but less than \$10,075
- (D) \$10,075 but less than \$10,275
- (E) \$10,275 or more

2006

Data for Question 29 (5 points)

Plan A is split into Plans B and C on 1/1/2006.

Priority category	<u>Plan termination liability</u>		
	<u>Plan A</u>	<u>Plan B</u>	<u>Plan C</u>
3	\$1,100,000	\$1,000,000	\$100,000
4	4,000,000	3,000,000	1,000,000
5	700,000	200,000	500,000
6	<u>500,000</u>	<u>100,000</u>	<u>400,000</u>
Total	\$6,300,000	\$4,300,000	\$2,000,000

Selected 1/1/2006 valuation data:

	<u>Plan A</u>	<u>Plan B</u>	<u>Plan C</u>
Credit balance	\$1,000,000		
Actuarial accrued liability	5,000,000	\$3,000,000	\$2,000,000
Market value of assets	4,000,000		
Actuarial value of assets	3,700,000		

Question 29

In what range is the total outstanding balance of the funding standard account bases which are allocated to Plan C immediately after the spin off?

- (A) Less than \$1,000,000
- (B) \$1,000,000 but less than \$1,250,000
- (C) \$1,250,000 but less than \$1,500,000
- (D) \$1,500,000 but less than \$1,750,000
- (E) \$1,750,000 or more

2006

Data for Question 30 (4 points)

Plan provisions:

Normal form	50% qualified joint and survivor annuity (QJSA)
Normal retirement age	65
Early retirement age	63
Early retirement benefit	Unreduced accrued benefit
Optional forms of benefit	None

Nondiscrimination testing assumptions:

Method of testing	Benefit basis
Permitted disparity	Not imputed
Measurement period	Current plan year
Snapshot testing date	1/1/2006
Testing age	65
Standard interest rate	8.5%

Selected annuity values using testing assumptions:

<u>Age</u>	<u>Life annuity</u>	<u>50% QJSA</u>
63	8.31	9.06
64	8.13	8.89
65	7.95	8.72

Data for all employees of the employer during the current plan year:

<u>Employee</u>	<u>Date of birth</u>	<u>Average compensation</u>	<u>Increase in annual accrued benefit</u>
Smith	1/1/1942	\$80,000	\$10,500
Jones	1/1/1972	50,000	4,500

Question 30

In what range is the sum of the most valuable accrual rates?

- (A) Less than 24.5%
- (B) 24.5% but less than 26.0%
- (C) 26.0% but less than 27.5%
- (D) 27.5% but less than 29.0%
- (E) 29.0% or more

2006

Data for Question 31 (2 points)

Consider the following statements regarding participant notices:

- I. Only participants requesting to waive the qualified preretirement survivor annuity are provided a qualified preretirement survivor annuity notice.
- II. ERISA section 204(h) notices are not required for the elimination of retirement-type subsidies.
- III. Plans with less than 100 participants are exempt from providing the underfunded notice as specified under ERISA section 4011 for years in which a variable rate premium is due.

Question 31

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.

## 2006

### Data for Question 32 (4 points)

Actuarial cost method: Unit credit.

Valuation interest rate: 7.50%.

Current liability interest rate: 6.10%.

Credit balance in funding standard account as of 12/31/2004: \$250,000.

Selected valuation results as of 1/1/2005:

Market value of assets	\$5,200,000
Actuarial value of assets	5,100,000
Accrued liability	5,100,000
Normal cost	450,000
Current liability	6,100,000
Expected increase in current liability due to benefits accruing during the plan year	550,000
Expected benefit payments	450,000

Contribution for the 2005 plan year: \$315,000 paid on 12/31/2005.

The employer makes an additional contribution on 9/15/2006 equal to the least amount, designated for the 2005 plan year, which satisfies the PBGC full funding exemption for computing the 2006 PBGC variable rate premium.

### Question 32

In what range is the employer contribution made on 9/15/2006?

- (A) Less than \$200,000
- (B) \$200,000 but less than \$400,000
- (C) \$400,000 but less than \$600,000
- (D) \$600,000 but less than \$800,000
- (E) \$800,000 or more

2006

Data for Question 33 (4 points)

Plan A: Defined benefit pension plan

Plan B: Profit sharing plan

Dates of entry for both plans: 1/1 and 7/1 following hire.

Vesting for both plans: 100% after two years.

Allocations of employer contributions were initially made only to certain salaried employees in 2006.

The plans are permissively aggregated for coverage and non-discrimination testing.

Data for all employees for 2006:

	Date of <u>hire</u>	Date of <u>termination</u>	2006 <u>hours</u>	Equivalent normal allocation rate <u>Plan A</u>	Testing <u>compensation</u>	Initial profit sharing contribution as a percentage of testing <u>compensation</u>
HCE	8/1/2000		2000	8.40%	\$80,000	0.00%
NHCE 1	8/1/2000		2000	2.10%	70,000	3.85%
NHCE 2	8/1/2001		2000	9.10%	70,000	1.65%
NHCE 3	8/1/2002		2000	0.00%	50,000	1.30%
NHCE 4	8/1/2003		2000	8.40%	60,000	1.65%
NHCE 5	8/1/2004	4/30/2006	501	0.00%	5,000	0.00%

The employer then amends Plan B to make an additional X profit-sharing contribution for NHCE 3 in order to satisfy the average benefit percentage test for 2006.

Question 33

In what range is the minimum value of X?

- (A) \$0
- (B) \$1 but less than \$601
- (C) \$601 but less than \$1,201
- (D) \$1,201 but less than \$1,801
- (E) \$1,801 or more

## 2006

### Data for Question 34 (5 points)

<u>Plan</u>	<u>Plan type</u>	<u>Plan participants</u>	<u>Plan year</u>	<u>Valuation date</u>
A	Profit sharing	All employees	Calendar year	12/31
B	Defined benefit	Union employees	7/1 to 6/30	7/1
C	Defined benefit	Nonunion employees	10/1 to 9/30	10/1

Each plan would meet the requirements of IRC Sections 401(a)(4) and 410(b) if the other plans did not exist.

No key employee has ever participated in Plan B.

Account balances in Plan A as of various dates:

	<u>12/31/2005</u>	<u>12/31/2006</u>
Key	\$900,000	\$625,000
Non-Key	400,000	800,000

Present value of accrued benefits in Plan B as of various dates:

	<u>7/1/2004</u>	<u>6/30/2005</u>	<u>7/1/2005</u>	<u>6/30/2006</u>
Key	\$0	\$0	\$0	\$0
Non-Key	270,000	300,000	315,000	375,000

Present value of accrued benefits in Plan C as of various dates:

	<u>10/1/2004</u>	<u>9/30/2005</u>	<u>10/1/2005</u>	<u>9/30/2006</u>
Key	\$500,000	\$600,000	\$550,000	\$600,000
Non-Key	400,000	500,000	460,000	505,000

Only distributions in the past 5 years: Paid to key employee Smith from Plan A.

<u>Date of payment</u>	<u>Reason for distribution</u>	<u>Amount</u>
7/1/2003	Participant elected in-service	\$75,000
3/31/2004	Separation from service	200,000

### Question 34

In what range is the top-heavy ratio of the required aggregation group that will determine if Plan A is top-heavy for the plan year that ends 12/31/2006?

- (A) Less than 63.00%
- (B) 63.00% but less than 64.00%
- (C) 64.00% but less than 65.00%
- (D) 65.00% but less than 66.00%
- (E) 66.00% or more

2006

Data for Question 35 (3 points)

Plan effective date: 1/1/2004.

Plan entry date: 1/1 nearest completion of 12 months of service.

Annual accrued benefit: \$2,400 for each completed year of service.

Data for all plan participants:

<u>Participant</u>	<u>Date of hire</u>	<u>Average annual compensation</u>
Smith	1/1/1991	\$30,000
Jones	1/1/1991	195,000
Brown	1/1/2005	7,500

Question 35

In what range is the sum of the annual accrued benefits earned by Smith, Jones, and Brown as of 1/1/2006?

- (A) Less than \$65,900
- (B) \$65,900 but less than \$66,900
- (C) \$66,900 but less than \$67,900
- (D) \$67,900 but less than \$68,900
- (E) \$68,900 or more



2006

Data for Question 36 (3 points)

An employer sponsors two defined benefit plans.

Defined benefit plan A:

Early retirement age	55
Early retirement factor	3% reduction per year prior to age 65

Defined benefit plan B:

Early retirement age	55
Early retirement factor	5% reduction per year prior to age 65

Each employee participates in either Plan A or Plan B but not both.

Data for all employees of the employer:

<u>Plan</u>	<u>Status</u>	<u>Number of employees</u>	<u>Normal accrual rate</u>	<u>Most valuable accrual rate</u>
A	HCE	10	2.0%	3.4%
A	NHCE	10	1.5%	2.5%
B	HCE	10	1.8%	2.4%
B	NHCE	90	1.5%	2.0%

Question 36

In what range is the average benefits percentage test ratio?

- (A) Less than 70.0%
- (B) 70.0% but less than 72.5%
- (C) 72.5% but less than 75.0%
- (D) 75.0% but less than 77.5%
- (E) 77.5% or more

2006

Data for Question 37 (4 points)

Type of plan: Multiemployer.

Plan effective date: 1/1/1999.

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

Employer A joined the plan on 1/1/1999. On 7/1/2004 Employer A ceased to have an obligation to contribute to the plan due to the sale of assets to an unrelated party, Employer B. As part of the sales agreement, Employer B assumed the obligation to contribute to the plan with respect to the operation for substantially the same number of contribution base units for which Employer A had an obligation to contribute.

Employer B withdraws from the plan on 10/1/2006 and is unable to pay its withdrawal liability.

Other than the above, there have been no other withdrawals or asset sales.

<u>Year</u>	<u>History of employer contributions:</u>			<u>Unfunded vested benefits at 12/31</u>
	<u>Employer A</u>	<u>Employer B</u>	<u>All employers</u>	
1999	\$30,000		\$350,000	
2000	35,000		350,000	
2001	35,000		400,000	
2002	40,000		450,000	
2003	45,000		450,000	\$3,000,000
2004	50,000		500,000	3,500,000
2005		\$30,000	600,000	4,000,000
2006		25,000	600,000	5,000,000

Question 37

In what range is Employer A's withdrawal liability?

- (A) Less than \$260,000
- (B) \$260,000 but less than \$283,500
- (C) \$283,500 but less than \$307,000
- (D) \$307,000 but less than \$330,500
- (E) \$330,500 or more

2006

Data for Question 38 (2 points)

Plan A is terminated. Some excess assets are transferred to a qualified replacement plan and the balance is returned to the employer.

An amendment was adopted and effective on the date of termination to increase benefits for participants including retired participants.

Plan assets before transfer to qualified replacement plan: \$4,400,000.

Benefit liabilities before plan amendment: \$4,000,000.

Increase in benefit liabilities for retired participants: \$54,000.

Increase in benefit liabilities for active participants: \$70,000.

Amount transferred to a qualified replacement plan: \$80,000.

Question 38

In what range is the excise tax under IRC section 4980 payable on the reversion of plan assets to the employer?

- (A) Less than \$50,000
- (B) \$50,000 but less than \$70,000
- (C) \$70,000 but less than \$90,000
- (D) \$90,000 but less then \$110,000
- (E) \$110,000 or more

2006

Data for Question 39 (5 points)

A defined benefit plan was terminated on 1/1/2006 and was accepted by the PBGC as a distress termination.

Normal retirement age: 62.

Early retirement age: None.

<u>Date:</u>	<u>Accrued benefit</u>	<u>Normal form of payment</u>
Effective 1/1/1990	\$100 per month times years of service	Life
Effective 1/1/2003	\$110 per month times years of service	100% joint and survivor

Plan definition of actuarial equivalence used to calculate the 100% joint and survivor annuity:

Effective 1/1/1990	Same factors as those used by the PBGC to adjust the maximum guaranteed benefit
Effective 1/1/2003	Not applicable.

Vesting schedule: 2 – 6 year top-heavy graded vesting.

Selected participant data as of 1/1/2006:

<u>Name</u>	<u>Age</u>	<u>Spouse's age</u>	<u>Years of service</u>	<u>Substantial owner</u>
Smith	45	42	5	No
Jones	58	60	25	No

Each participant's 5-year average compensation is greater than the PBGC maximum guaranteed benefit.

The plan's qualified joint and survivor annuity is a 100% joint and survivor annuity.

Question 39

In what range is the sum of the monthly benefits payable at normal retirement age as a 100% joint and survivor annuity for Smith and Jones that are allocated through PBGC priority category 4?

- (A) Less than \$2,600
- (B) \$2,600 but less than \$2,700
- (C) \$2,700 but less than \$2,800
- (D) \$2,800 but less than \$2,900
- (E) \$2,900 or more

## 2006

### Data for Question 40 (3 points)

Eligibility: 1/1 or 7/1 coinciding with or next following one year of service.

Year of service: Calendar year with 1,000 hours of service.

Employer elects to exclude all employees who are permitted to be excluded under the regulations for the purposes of determining the ratio percentage under IRC section 410(b).

Participant data for 2005 and 2006 calendar years:

	<u>Date of hire</u>	<u>Date of termination</u>	<u>Date of rehire</u>	<u>2005 hours worked</u>	<u>2006 hours worked</u>
Employee 1	1/1/2005	9/15/2006	--	2,080	750
Employee 2	1/1/2005	--	--	2,080	750
Employee 3	1/1/2005	--	--	850	1,200
Employee 4	1/1/2005	3/1/2006	--	2,080	250
Employee 5	1/1/2005	5/1/2006	11/1/2006	1,500	1,050
Employee 6	1/1/2005	2/1/2006	12/1/2006	1,750	200

### Question 40

What is the number of nonexcludable employees for the 2006 year?

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

2006

Data for Question 41 (2 points)

Consider the following plans, all of which are effective 1/1/2005:

- I. A plan sponsored by a professional service employer. The employer was formed on 1/1/2004 with 35 employees. On 1/1/2005 only 20 employees remain. All 20 employees are eligible to participate in the plan. There were no other hires or terminations during 2005.
- II. A plan sponsored by a professional service employer. All 18 active employees immediately participated on 1/1/2005. On 7/1/2005 the plan sponsor hired 10 additional employees, who became participants on that date. On 10/1/2005, the plan sponsor terminated 5 employees and paid them all lump sums equal to the present value of their vested accrued benefits. These payments occurred prior to 12/31/2005. There were no other hires or terminations during 2005.
- III. A plan sponsored by a partnership of 8 individuals, each owning equal shares. The partnership is not a professional service employer. The plan covers all 8 partners. There are no other employees.

Question 41

Which, if any, of the above plans is(are) required to pay a premium to the PBGC for 2006?

- (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.

THIS PAGE WAS INTENTIONALLY LEFT BLANK

2006 EA-2B EXAMINATION  
ANSWER KEY

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