

SOCIETY OF ACTUARIES
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JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES

ENROLLED ACTUARIES PENSION EXAMINATION, SEGMENT B

MAY 2005 EA-2, SEGMENT B, EXAMINATION

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2005

Data for Question 1 (1 point)

Consider the following statement:

With respect to plans covered by Title IV of ERISA, the PBGC must be provided a Notice of Intent to Terminate for any plan termination.

Question 1

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 2 (1 point)

An employer sponsors two defined benefit plans.

The plans only pass coverage requirements of IRC section 410(b) using plan aggregation.

Consider the following statement:

The plans are not required to be aggregated for non-discrimination testing under IRC section 401(a)(4).

Question 2

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 3 (1 point)

Smith, a participant in a defined benefit plan, has completed more than 10 years of service. Smith's highest three consecutive years' compensation is as follows:

| | |
|------|---------|
| 2002 | \$5,000 |
| 2003 | 4,000 |
| 2004 | 7,000 |

The plan provides for a minimum total annual benefit of \$10,000.

The only optional forms available are life annuity, and 100% qualified joint and survivor annuity.

The employer has not at any time maintained any other qualified plan in which Smith has participated.

Consider the following statement:

Smith would be eligible to receive the \$10,000 annual benefit in any optional form available under the terms of the plan.

Question 3

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 4 (1 point)

Consider the following statement:

For monthly benefits that commence prior to age 62, the IRC section 415 maximum benefit limitation is calculated using the applicable interest rate and the prevailing commissioners' standard mortality table.

Question 4

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 5 (1 point)

| | |
|--------------------|-------------------|
| Participant: | Smith |
| 2004 compensation: | \$190,000 |
| Ownership: | 4% equity partner |
| Employer: | Unincorporated |

Consider the following statement:

Smith is a key employee for 2005.

Question 5

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 6 (1 point)

Plan A first becomes top heavy in 2005.

A year of vesting service is credited for each plan year a participant has 1,000 hours of service.

Consider the following statement:

During 2005, only participants with 1,000 or more hours of service are subject to the top heavy vesting schedule.

Question 6

Is the above statement true or false?

(A) True

(B) False

2005

Data for Question 7 (1 point)

An employer sponsors two plans, A and B. Plan A has assets in excess of its termination liabilities. Plan A spins off a group of employees and their accrued benefits to Plan B.

Consider the following statement:

The employer has the option of either transferring a required portion of Plan A's excess assets to Plan B or fully vesting all the benefits of employees in the group being spun off to Plan B.

Question 7

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 8 (1 point)

Mr. and Mrs. Smith were both participants in a plan that was terminated under a distress termination procedure and was taken over by the PBGC.

| <u>Data for:</u> | <u>Mr. Smith</u> | <u>Mrs. Smith</u> |
|----------------------------|------------------|---------------------------------|
| Age | 65 | 65 |
| Monthly guaranteed benefit | \$3,400 | \$2,500 |
| Form of payment | Life annuity | Joint and 100% survivor annuity |
| Beneficiary | N/A | Mr. Smith |

Mrs. Smith dies and her benefit becomes payable to Mr. Smith.

Consider the following statement:

The PBGC will pay the full \$5,900 monthly benefit to Mr. Smith.

Question 8

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 9 (1 point)

An employer sponsors a plan in which the amount of benefits depends on the participant's age or service, and the participant becomes entitled to increased benefits solely because of advancement in age or service.

Consider the following statement:

The increased benefits to which the participant becomes entitled will, for the purpose of determining the PBGC guaranteed benefit, be treated as a benefit increase.

Question 9

Is the above statement true or false?

(A) True

(B) False

2005

Data for Question 10 (1 point)

An overfunded defined benefit pension plan is terminated. The employer establishes a replacement plan that covers at least 95% of the employees that formerly participated in the defined benefit plan. After satisfaction of all benefit liabilities, the employer directly transfers to the replacement plan 25% of the maximum amount the employer could receive as an employer reversion, and 75% of the excess is then returned to the employer.

Consider the following statement:

There is no excise tax on this reversion.

Question 10

Is the above statement true or false?

- (A) True
- (B) False

Data for Question 11 (1 point)

Consider the following individuals:

- Fiduciary.
- Spouse of fiduciary.
- Person providing services to the plan.
- Spouse of a person providing services to the plan.

Consider the following statement:

All of the above individuals are considered disqualified persons for purposes of prohibited transaction rules.

Question 11

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 12 (1 point)

Consider the following statement:

Willful failure of an enrolled actuary to file personal U.S. income tax returns may lead to suspension of rights as an enrolled actuary.

Question 12

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 13 (1 point)

A plan terminated in a standard termination on 1/15/2004. An annuity purchase made on 8/15/2004 satisfied all benefit liabilities.

Consider the following statement:

The minimum PBGC premium for 2004 is calculated on a pro-rata basis using the date of plan termination.

Question 13

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 14 (2 points)

| | |
|---|----------|
| Participant count on the 2005 PBGC Form 1: | 850 |
| Premium paid (timely) with 2006 PBGC Form 1-ES: | \$15,960 |
| Participant count on the 2006 PBGC Form 1: | 913 |

Consider the following statement:

There is no late payment penalty charge for paying too small of a premium with the 2006 PBGC Form 1-ES, but an interest charge on the difference between the premium paid with the 2006 PBGC Form 1-ES and the flat rate premium paid with the 2006 PBGC Form 1 will be due to the PBGC.

Question 14

Is the above statement true or false?

- (A) True
- (B) False

2005

Data for Question 15 (2 points)

Consider the following statements regarding the ERISA 204(h) notice of a significant reduction in future benefit accruals:

- I. Decreases in early retirement subsidies are considered reductions in future benefit accruals.
- II. Notices to participants may be posted in the workplace, as long as a notice is mailed to all participants not at the workplace.
- III. Notices do not have to be given to participants who are not affected by the reduction.

Question 15

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.

2005

Data for Question 16 (2 points)

A plan determines vesting service on hours, counted in the most restrictive fashion allowed by law. Service is credited on a calendar year basis.

Smith, born 1/1/1974, has the following employment history:

| <u>Year</u> | <u>Hours Worked</u> | <u>Employment Status</u> |
|-------------|---------------------|--------------------------|
| 1991 | 1,200 | Hired 4/1/1991 |
| 1992 | 1,300 | Active |
| 1993 | 400 | Active |
| 1994 | 400 | Active |
| 1995 | 400 | Active |
| 1996 | 600 | Active, quit 10/1/1996 |
| 1997 | 0 | Inactive |
| 1998 | 2,080 | Rehired 1/1/1998 |
| 1999 | 600 | Maternity Leave 5/1/1999 |
| 2000 | 0 | Maternity Leave |
| 2001 | 0 | Terminated |
| 2002 | 0 | Inactive |
| 2003 | 0 | Inactive |
| 2004 | 0 | Inactive |
| 2005 | 2,080 | Rehired 1/1/2005 |

Question 16

How many years of vesting service does Smith have as of 12/31/2005?

- (A) 1 year or fewer
- (B) 2 years
- (C) 3 years
- (D) 4 years
- (E) 5 years or more

2005

Data for Question 17 (4 points)

Consider the following information:

Participation: Age 21, with no service requirement.

Benefit formula: \$200 per year for each of the first 10 years of participation, plus
\$300 per year for each of the next 10 years of participation, plus
\$X per year for each of the next 10 years of participation.

Question 17

In what range is the largest value of X that will meet at least one of the accrual rules of IRC section 411(b)?

- (A) Less than \$50
- (B) \$50 but less than \$150
- (C) \$150 but less than \$250
- (D) \$250 but less than \$350
- (E) \$350 or more

2005

Data for Question 18 (3 points)

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

Early retirement benefit: Accrued benefit reduced 6% for each year benefits commence prior to age 65.

Data for Smith is as follows:

| | |
|---|---------------------|
| Date of birth | 1/1/1947 |
| Date of hire | 1/1/1996 |
| Date of participation | 1/1/1997 |
| Date of termination | 12/31/2004 |
| Date of retirement | 1/1/2005 |
| Plan formula benefit, payable at age 65 | \$190,000 per year. |

The following factors are based on IRC section 417(e) applicable mortality and 5% interest:

| | |
|------------|-------------------------|
| <u>Age</u> | <u>Reduction factor</u> |
| 58 | 57.76% |
| 62 | 78.21% |
| 65 | 100.00% |

Question 18

In what range is Smith's annual life only benefit?

- (A) Less than \$88,000
- (B) \$88,000 but less than \$93,000
- (C) \$93,000 but less than \$98,000
- (D) \$98,000 but less than \$103,000
- (E) \$103,000 or more

2005

Data for Question 19 (3 points)

A plan is terminating under a PBGC standard termination.

Plan provisions regarding lump sum distribution:

| | |
|--------------------------------------|----------|
| Elective lump sum distribution limit | \$25,000 |
| Mandatory lump sum limit | 5,000 |

Three plan participants cannot be located after a diligent search.

Single sum present values as of the deemed distribution date for the three missing participants are listed below:

| <u>Participant</u> | <u>Missing Participant Annuity Values</u> | <u>Missing Participant Lump Sum Values</u> | <u>Plan Lump Sum Values</u> |
|--------------------|---|--|---------------------------------|
| Smith | \$10,000 | \$12,000 | \$11,000 |
| Jones | 26,000 | 28,000 | 29,000 |
| Brown | 24,000 | 20,000 | 22,000 |

The above values do not include any adjustment (loading) for expenses.

Question 19

In what range is the designated benefit payable to the PBGC for these three missing participants?

- (A) Less than \$60,050
- (B) \$60,050 but less than \$60,600
- (C) \$60,600 but less than \$61,150
- (D) \$61,150 but less than \$61,700
- (E) \$61,700 or more

2005

Data for Question 20 (4 points)

Actuarial cost method: Entry age normal.

Selected valuation results and funding standard account items as of 1/1/2004:

| | |
|--|-------------|
| Valuation interest rate | 8.00% |
| Actuarial accrued liability | \$5,000,000 |
| Normal cost | 200,000 |
| Current liability interest rate | 6.55% |
| Current liability | \$7,000,000 |
| Expected increase in current liability due to benefits accruing during the year | 300,000 |
| Expected benefit payments | \$0 |
| Credit balance as of 12/31/2003 | 100,000 |
| Actuarial value of assets | \$4,500,000 |
| Market value of assets | 4,400,000 |

Question 20

In what range is the 2004 plan year contribution, with interest to year end, required for the plan to meet the full funding exemption for a 2005 variable rate premium?

- (A) Less than \$2,000,000
- (B) \$2,000,000 but less than \$2,050,000
- (C) \$2,050,000 but less than \$2,100,000
- (D) \$2,100,000 but less than \$2,150,000
- (E) \$2,150,000 or more

2005

Data for Question 21 (4 points)

An employer sponsors two defined benefit plans, with the following data:

Plan A's plan year – 1/1 to 12/31

Plan B's plan year – 7/1 to 6/30

| | Highly Compensated <u>Employees</u> | Non-Highly Compensated <u>Employees</u> |
|---|---|---|
| Plan A – 1/1/2005 to 12/31/2005 | | |
| Number of employees benefiting | 10 | 100 |
| Employee benefit percentage for these employees | 1.5% | 1.25% |
| Plan B – 7/1/2004 to 6/30/2005 | | |
| Number of employees benefiting | 20 | 100 |
| Employee benefit percentage for these employees | 2% | 1.5% |
| Plan B – 7/1/2005 to 6/30/2006 | | |
| Number of employees benefiting | 25 | 90 |
| Employee benefit percentage for these employees | 2% | 1.5% |

In the 2005 calendar year, the employer has an additional 5 highly compensated and 50 non-highly compensated employees who are not benefiting under any plan.

The two plans have no employees in common.

There are no excludable employees.

Question 21

In what range is the average benefit percentage for the 2005 calendar year?

- (A) Less than 69%
- (B) 69% but less than 72%
- (C) 72% but less than 75%
- (D) 75% but less than 78%
- (E) 78% or more

2005

Data for Question 22 (3 points)

A corporation has the following employees:

| <u>Employee</u> | Shares of the Corporation owned through 1/1/2005 | <u>Plan Year Compensation</u> | |
|-----------------|--|-------------------------------|-------------|
| | | <u>2005</u> | <u>2004</u> |
| Smith | 9 | \$90,000 | \$85,000 |
| Jones | 182 | 85,000 | 80,000 |
| Brown | 9 | 60,000 | 125,000 |
| Green | 0 | 65,000 | 60,000 |

The total outstanding shares of the corporation is 200.

During 2005, Brown terminates employment and sells his entire ownership in the firm to Green.

The employer does not elect the top 20% option for determining its highly compensated employees.

Question 22

Which employees are highly compensated employees during 2005?

- (A) Jones and Brown only.
- (B) Smith, Jones, and Brown only.
- (C) Jones, Brown, and Green only.
- (D) Smith, Jones, Brown, and Green.
- (E) The correct answer is not given by (A), (B), (C), or (D) above.

2005

Data for Question 23 (4 points)

Plan effective date: 1/1/2000.

Normal retirement benefit: 1.5% of highest 3-year average compensation for each year of service.

Mandatory employee contributions: 5% of compensation, paid 12/31 each year.

Vesting eligibility: Statutory 3 to 7 year graded vesting.

Lump sum actuarial equivalence: Applicable interest rate for the month preceding the first day of the plan year and applicable mortality table.

A year of vesting service and benefit accrual is credited for each plan year in which a participant has 1,000 hours of service.

Data for participant Smith:

Date of birth: 1/1/1961

Date of hire: 1/1/2001

Selected values:

| <u>Year</u> | <u>Compensation</u> | <u>Hours Worked</u> | <u>January 120% Federal Mid-Term Rate</u> | <u>December 30-Year Treasury Rate</u> | <u>Lump Sum Actuarial Equivalence Annuity Factor at Age 65</u> |
|-------------|---------------------|-------------------------|---|---|--|
| 2001 | \$50,000 | 2000 | 6.75% | 5.48% | 11.33 |
| 2002 | \$55,000 | 2000 | 5.40% | 4.92% | 11.87 |
| 2003 | \$60,000 | 2000 | 4.12% | 5.07% | 11.72 |
| 2004 | \$65,000 | 2000 | 4.23% | 6.25%* | 10.65 |

*assumed rate to be used for this question.

Question 23

In what range is the absolute value of the difference in Smith's annual vested accrued benefit at 12/31/2004 and 1/1/2005?

- (A) Less than \$300
- (B) \$300 but less than \$600
- (C) \$600 but less than \$900
- (D) \$900 but less than \$1,200
- (E) \$1,200 or more

2005

Data for Question 24 (4 points)

Plan effective date: 1/1/1990

Early retirement age: Age 55

Early retirement benefit: Normal retirement benefit reduced 6% for each year benefits commence before age 65 (maximum of 5 years) and reduced an additional 3.5% for each year benefits commence prior to age 60

Subsidized pre-retirement death benefit: None

Reduction for benefit payable as qualified joint and survivor annuity: 9%

Data for participant Smith:

| | |
|-----------------------------------|--------------------------------------|
| Date of birth | 1/1/1950 |
| Date of hire | 1/1/1980 |
| Date of retirement | 1/1/2005 |
| Form of payment | Qualified joint and survivor annuity |
| Smith's compensation in all years | \$107,000 |

Selected annuity factors and survival probabilities using mandated mortality:

| | |
|------------------------|----------------------------------|
| ${}_7p_{55} = .9665$ | ${}_{10}p_{55} = .9407$ |
| | <u>5.5%</u> <u>5%</u> |
| $\ddot{a}_{65}^{(12)}$ | 11.31 11.79 |
| $\ddot{a}_{62}^{(12)}$ | 12.12 12.67 |
| $\ddot{a}_{55}^{(12)}$ | 13.82 14.57 |

Question 24

In what range is the maximum amount of Smith's annual retirement benefit under IRC section 415 as of 1/1/2005?

- (A) Less than \$85,000
- (B) \$85,000 but less than \$92,500
- (C) \$92,500 but less than \$100,000
- (D) \$100,000 but less than \$107,500
- (E) \$107,500 or more

2005

Data for Question 25 (4 points)

A company sponsors two plans. Both plans satisfy coverage and nondiscrimination on their own, without requiring aggregation.

Each employee of the company is employed at only one of its two locations.

Plan 1 is for employees of Location 1. The plan is effective 1/1/1998.

Annual accrued benefit: 1.25% of pay for the first 5 years of participation, 0.75% of pay thereafter.

Plan 2 is for employees of Location 2. The plan is effective 1/1/1997.

Annual accrued benefit: \$400 for each year of participation.

Top-heavy ratio by plan year for employees of:

| <u>Plan Year</u> | <u>Location 1</u> | <u>Location 2</u> | <u>Total - both</u> |
|----------------------|-------------------|-------------------|---------------------|
| 1998, 1999, and 2000 | 64% | 72% | 67% |
| 2001, 2002, and 2003 | 55% | 65% | 59% |
| 2004 | 59% | 66% | 64% |

Data for two employees, both active at 12/31/2004:

| | <u>Smith</u> | <u>Brown</u> |
|------------------------------------|--------------|--------------|
| Location | 1 | 2 |
| Date of hire | 1/1/1997 | 1/1/2002 |
| Key Employee | Never | Never |
| Compensation each year since hire: | \$30,000 | \$25,000 |

If a plan is top-heavy, the company will make the smallest increases in benefits allowable to satisfy top-heavy requirements.

Question 25

In what range is the sum of Smith's and Brown's annual accrued benefits at 12/31/2004?

- (A) Less than \$3,530
- (B) \$3,530 but less than \$3,730
- (C) \$3,730 but less than \$3,930
- (D) \$3,930 but less than \$4,130
- (E) \$4,130 or more

2005

Data for Question 26 (4 points)

Assumed retirement age: 63

Valuation rate of interest: 8.5%

PBGC required interest rate as of 1/1/2005: 5.0%

RPA '94 vested current liability reported on the 2004 Schedule B:

| | |
|---|-----------|
| RPA '94 current liability interest rate | 6.55% |
| Retirees and beneficiaries receiving payments | \$400,000 |
| Terminated vested participants | 600,000 |
| Active participants not receiving payments | 2,000,000 |

Value of plan assets as of 12/31/2003 (including receivable contribution): \$1,900,000

Contribution receivable as of 12/31/2003 deposited on 4/15/2004: \$200,000

The 2005 PBGC premium payment is paid 7/31/2005.

The plan has 750 participants.

Question 26

In what range is the variable rate premium for 2005 using the alternative calculation method?

- (A) Less than \$21,000
- (B) \$21,000 but less than \$21,255
- (C) \$21,255 but less than \$21,510
- (D) \$21,510 but less than \$21,765
- (E) \$21,765 or more

Data for Question 27 (2 points)

Consider the following statements:

- I. An actuary is always considered a fiduciary when calculating the IRC section 412 minimum funding contribution.
- II. A person may serve in more than one fiduciary capacity with respect to the plan.
- III. The plan document of a qualified plan (as defined in IRC section 401(a)) does not need to specify a named fiduciary.

Question 27

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.

2005

Data for Question 28 (3 points)

The normal accrual rates (NAR) and most valuable accrual rates (MVAR) for 4 non-highly compensated employees covered under a defined benefit plan are as follows:

| <u>Employee</u> | <u>NAR</u> | <u>MVAR</u> |
|-----------------|------------|-------------|
| E1 | 2.54% | 3.95% |
| E2 | 2.25% | 4.85% |
| E3 | 2.37% | 2.90% |
| E4 | 2.08% | 6.36% |

Question 28

Which of these pairs of employees could possibly be treated as having the same NAR and MVAR using the grouping of accrual rates option of IRC regulation 1.401(a)(4)-3(d)(3)?

- (A) E1 and E2
- (B) E1 and E3
- (C) E2 and E3
- (D) E2 and E4
- (E) The correct answer is not given by (A), (B), (C), or (D) above.

2005

Data for Question 29 (3 points)

Plan effective date: 1/1/2000.

Normal retirement benefit: 2.5% of average compensation times years of service.

Benefit normal form: Life only annuity.

Benefit optional form: Actuarially equivalent lump sum.

Selected valuation results for all participants including Smith as of 1/1/2005:

| | |
|------------------------------------|-----------|
| Actuarial (market) value of assets | \$625,000 |
| Current liability | 1,000,000 |
| Age 65 lump sum factor | 11.87 |

Data for highly compensated employee Smith:

| | |
|----------------------------------|-----------|
| Date of birth | 1/1/1940 |
| Date of hire | 1/1/1995 |
| Date of retirement | 1/1/2005 |
| Average compensation | \$150,000 |
| Current liability as of 1/1/2005 | 500,000 |
| Marital status | Single |
| Benefit option selected | Lump Sum |

This employer has always had the same ten employees since its formation.

Question 29

In what range is the maximum unrestricted amount payable to Smith as of 1/1/2005?

- (A) Less than \$50,000
- (B) \$50,000 but less than \$65,000
- (C) \$65,000 but less than \$80,000
- (D) \$80,000 but less than \$95,000
- (E) \$95,000 or more

2005

Data for Question 30 (5 points)

Plan effective date: 1/1/1985

Plan termination date: 12/31/2004

Normal retirement benefit:

Effective 1/1/1985 (Adopted 2/1/1985) 2.5% times 5-year average compensation for each year of service.

Effective 1/1/1990 (Adopted 7/1/2000) 3.0% times 5-year average compensation for each year of service.

Early retirement: Age 55 with 15 years of service, reduced 5% per year prior to age 65.

Normal form of annuity: Joint and 100% survivor for married participants;
Single life annuity for unmarried participants.

Data for selected participants as of 12/31/2004:

| | <u>Smith</u> | <u>Jones</u> |
|-----------------------------|--------------|--------------|
| Date of birth | 1/1/1945 | 1/1/1942 |
| Date of hire | 1/1/1980 | 1/1/1975 |
| Spouse date of birth | 1/1/1945 | 1/1/1942 |
| Date of retirement | 12/31/2004 | 12/31/2004 |
| 5-year average compensation | \$40,000 | \$80,000 |
| Ownership | 8% | 92% |

Question 30

In what range is the sum of PBGC guaranteed monthly benefits for Smith and Jones payable 12/31/2004?

- (A) Less than \$3,100
- (B) \$3,100 but less than \$3,350
- (C) \$3,350 but less than \$3,600
- (D) \$3,600 but less than \$3,850
- (E) \$3,850 or more

2005

Data for Question 31 (3 points)

Consider the following information:

Multiemployer plan.

History of employer contribution base units:

| <u>Year</u> | <u>Employer A Base Units</u> | <u>Employer A Contribution Rate</u> |
|-------------|----------------------------------|---|
| 1993 | 660,000 | \$2.60 |
| 1994 | 674,000 | 2.70 |
| 1995 | 688,000 | 2.80 |
| 1996 | 800,000 | 3.00 |
| 1997 | 820,000 | 3.00 |
| 1998 | 730,000 | 3.00 |
| 1999 | 744,000 | 3.15 |
| 2000 | 758,000 | 3.20 |
| 2001 | 786,000 | 3.20 |
| 2002 | 810,000 | 3.40 |
| 2003 | 820,000 | 3.70 |
| 2004 | 810,000 | 3.75 |

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

Employer A completely withdraws from the plan during 2004 with a withdrawal liability of \$10,000,000.

Question 31

In what range is Employer A's initial annual withdrawal liability payment?

- (A) Less than \$2,981,000
- (B) \$2,981,000 but less than \$3,021,000
- (C) \$3,021,000 but less than \$3,061,000
- (D) \$3,061,000 but less than \$3,101,000
- (E) \$3,101,000 or more

2005

Data for Question 32 (3 points)

| | |
|--|---|
| Early retirement eligibility: | Age 55 with 10 years of service or age 60 with 5 years of service. |
| Early commencement benefit: | Normal retirement benefit reduced by 6% for each year by which the benefit commencement date precedes the normal retirement date. |
| Plan vesting: | Statutory 3 to 7 year graded vesting. |
| Pre-retirement death benefit: | Minimum required pre-retirement survivor annuity |
| Cost of pre-retirement death benefit: | Fully subsidized by employer. |
| Plan's qualified Joint & 50% Survivor reduction factors: | |

| <u>Age (Participant:Spouse)</u> | <u>Factor</u> |
|---------------------------------|---------------|
| 55:55 | 0.95 |
| 60:60 | 0.93 |
| 65:65 | 0.90 |

Data for participant Smith:

| | |
|--|----------|
| Date of birth | 1/1/1950 |
| Spouse's date of birth | 1/1/1950 |
| Date of hire | 1/1/2000 |
| Date of death | 1/1/2005 |
| Annual accrued retirement benefit as of 1/1/2005 payable at 65 | \$10,000 |

Question 32

In what range is the annual qualified pre-retirement survivor annuity payable to Smith's spouse at the earliest possible date under the plan?

- (A) Less than \$1,900
- (B) \$1,900 but less than \$2,700
- (C) \$2,700 but less than \$3,500
- (D) \$3,500 but less than \$4,300
- (E) \$4,300 or more

2005

Data for Question 33 (2 points)

Subsidized pre-retirement death benefits: None

Actuarial equivalence: Applicable mortality, 6% interest

Data for participant Smith:

| | |
|--------------------|--------------|
| Date of birth | 1/1/1945 |
| Date of hire | 1/1/1995 |
| Date of retirement | 1/1/2005 |
| Form of benefit | Life annuity |

| <u>Year</u> | <u>Total compensation before deferrals</u> | <u>401(k) pre-tax deferrals</u> |
|-------------|--|---------------------------------|
| 2004 | \$215,000 | \$13,000 |
| 2003 | 205,000 | 10,000 |
| 2002 | 195,000 | 10,000 |

Compensation in years 2001 and earlier was less than \$150,000.

Selected actuarial factors:

| | $\overline{v^2} {}_2P_{60}$ | $\overline{\ddot{a}}_{60}^{(12)}$ | $\overline{\ddot{a}}_{62}^{(12)}$ |
|-----------------------------------|-----------------------------|-----------------------------------|-----------------------------------|
| Applicable mortality, 5% interest | 0.8953 | 13.25 | 12.68 |
| Applicable mortality, 6% interest | 0.8785 | 12.08 | 11.61 |

Question 33

In what range is the IRC section 415(b)(1)(B) compensation limit for Smith at retirement?

- (A) Less than \$174,500
- (B) \$174,500 but less than \$184,500
- (C) \$184,500 but less than \$194,500
- (D) \$194,500 but less than \$204,500
- (E) \$204,500 or more

2005

Data for Question 34 (3 points)

A company sponsors a defined contribution (DC) plan and a defined benefit (DB) plan. The employer has never sponsored any other plans.

The DC plan provides allocations of 5% of pay up to the taxable wage base plus 8% of pay in excess of the taxable wage base.

The DB plan provides a unit accrual benefit of 1% of average compensation plus X% of average compensation in excess of covered compensation, with a maximum of 40 years of service. Unreduced benefits commence at age 62.

Question 34

In what range is the maximum permitted value of X that would allow both plans to be safe harbor plans under IRC regulation 1.401(a)(4)?

- (A) Less than 0.155%
- (B) 0.155% but less than 0.180%
- (C) 0.180% but less than 0.205%
- (D) 0.205% but less than 0.230%
- (E) 0.230% or more

2005

Data for Question 35 (3 points)

A plan currently provides for an unreduced early retirement benefit at age 62. The employer amends this plan to eliminate the subsidy prospectively to the extent permitted by law. The plan administrator fails to provide the appropriate ERISA section 204(h) notice in a timely fashion, and the noncompliance period extends for 51 days.

Participant information as of the date of plan amendment:

| | |
|--|----|
| Active participants | 40 |
| Terminated participants with vested benefits | 25 |
| Retirees and beneficiaries | 30 |

All active participants are currently under age 60.

Question 35

In what range is the excise tax imposed by IRC section 4980F?

- (A) Less than \$100,000
- (B) \$100,000 but less than \$200,000
- (C) \$200,000 but less than \$300,000
- (D) \$300,000 but less than \$400,000
- (E) \$400,000 or more

2005

Data for Question 36 (3 points)

Plan effective date: 1/1/1970

Normal form of payment: Life with 10 year certain

Pre-retirement death benefit: Qualified pre-retirement survivor annuity

Assumptions used for actuarial equivalence (pre and post retirement): Applicable mortality, 5.5% interest

Data for plan participant Smith:

| | |
|------------------------|-----------|
| Date of birth | 1/1/1939 |
| Date of hire | 1/1/1995 |
| Date of retirement | 1/1/2005 |
| Compensation each year | \$183,300 |

Selected actuarial factors:

| | $\ddot{a}_{65}^{(12)}$ | $\ddot{a}_{66}^{(12)}$ | $\ddot{a}_{65:10}^{(12)}$ | $\ddot{a}_{66:10}^{(12)}$ |
|-------------------------------------|------------------------|------------------------|---------------------------|---------------------------|
| Applicable mortality, 5% interest | 12.25 | 11.95 | 12.73 | 12.48 |
| Applicable mortality, 5.5% interest | 11.77 | 11.50 | 12.24 | 12.02 |

$$p_{65} = .9886$$

Question 36

In what range is the maximum annual benefit payable to Smith on January 1, 2005 in the normal form?

- (A) Less than \$175,025
- (B) \$175,025 but less than \$175,150
- (C) \$175,150 but less than \$175,275
- (D) \$175,275 but less than \$175,400
- (E) \$175,400 or more

Data for Question 37 (2 points)

Consider the following statements:

- I. The sponsor of a severely underfunded plan (Plan A) is negotiating a merger of Plan A into an overfunded plan. Plan A provides for a lump sum distribution at termination of employment. The enrolled actuary for Plan A has been requested by, and provides to, the sponsor of Plan A, a report on the funded status of Plan A that specifically ignores the lump sum option.
- II. An enrolled actuary has signed, delivered and presented an actuarial report to a plan sponsor. The plan administrator subsequently requests from the enrolled actuary in writing, supplemental advice and explanation relative to the report. Because no further fees can be collected relative to the completion of the report, the enrolled actuary respectfully declines to comply with this request.
- III. An enrolled actuary is employed by a firm that provides record keeping and actuarial services to a multiemployer plan. The enrolled actuary is aware of, but does not disclose, material inadequacies regarding the demographic information used to prepare actuarial reports for that plan.

Question 37

Which, if any, of the above situations represents a failure in the discharge of duties required by ERISA of enrolled actuaries?

- (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 (2 points)

An enrolled actuary has been requested to assist labor and management in their contract negotiations.

The enrolled actuary acknowledges to both labor and management that there is a conflict of interest.

Consider the following statements:

- I. Due to the conflict of interest, the enrolled actuary must not perform any actuarial services for either labor or management related to the contract negotiations, but would be free to continue to provide other actuarial services to both entities.
- II. The enrolled actuary is permitted to perform services solely for management or solely for the labor organization or simultaneously for management and labor organization as long as the plan trustees, all named fiduciaries, plan administrator and collective bargaining representatives are notified.
- III. The enrolled actuary must not perform any actuarial services where there is a known conflict of interest.

Question 38

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.

2005

Data for Question 39 (4 points)

During 2004, Smith is a participant in a profit sharing plan, a 401(k) plan, and a defined benefit plan, all sponsored by the same employer.

Data for participant Smith:

| | |
|---------------------------------|------------|
| Date of birth | 12/31/1979 |
| 2004 calendar year compensation | \$150,000 |

Smith's account activity in the profit sharing plan:

| | |
|--|----------|
| 2004 employer profit sharing allocation | \$ 2,500 |
| Rollover from a prior employer's qualified retirement plan during 2004 | 500 |
| Investment gains or losses during 2004 | 200 |

Smith's account activity in the 401(k) plan:

| | |
|--|----------|
| 2004 employee 401(k) salary deferrals | \$ 7,500 |
| Investment gains or losses during 2004 | 450 |

The participant's annual accrued benefit in the defined benefit plan, payable at the plan's normal retirement age, increased by \$4,000 during 2004.

The defined benefit plan and profit sharing plan are aggregated for non-discrimination testing purposes.

Testing assumptions and other information:

| | |
|------------------------|------------|
| Standard interest rate | 8.5% |
| \ddot{a}_{65} | 7.95 |
| Testing age | 65 |
| Testing date | 12/31/2004 |

Question 39

In what range is Smith's benefit percentage determined on an allocation basis for 2004 for use in the average benefit percentage test?

- (A) Less than 6.25%
- (B) 6.25% but less than 7.00%
- (C) 7.00% but less than 7.75%
- (D) 7.75% but less than 8.50%
- (E) 8.50% or more

2005

Data for Question 40 (3 points)

An employer sponsors Plan A, a defined benefit plan, and Plan B, a defined contribution plan.

These plans are top-heavy for the 2004 plan year.

Data for selected non-key employees:

| | <u>Smith</u> | <u>Jones</u> | <u>Brown</u> |
|---------------------------|--------------|--------------|--------------|
| 2004 Compensation | \$30,000 | \$75,000 | \$60,000 |
| Date of hire | 1/1/2004 | 1/1/2004 | 1/1/2004 |
| Employment classification | Salaried | Hourly | Supervisory |
| Plan participation | B | A | A and B |

Consider the following statements regarding the top-heavy minimum contribution or benefit for 2004:

- I. Smith must receive a contribution allocation of at least \$1,500 to satisfy the top-heavy minimum.
- II. Jones must receive an annual benefit accrual of at least \$1,500 to satisfy the top-heavy minimum.
- III. If Brown receives either a contribution allocation of at least \$3,000 or an annual benefit accrual of at least \$1,200, the top-heavy minimum will be satisfied.

Question 40

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.

2005

Data for Question 41 (3 points)

A company maintains a retiree health plan and a pension plan with the following information as of January 1, 2005:

Retiree health plan:

| | |
|--|--------------|
| Liabilities | \$15,000,000 |
| Assets | 5,000,000 |
| Expected employer paid claims for 2005 | 1,000,000 |

10% of the retiree health plan's liabilities and expected benefit payments are for key employees.

Pension plan:

| | |
|------------------------------------|--------------|
| Actuarial accrued liability | \$40,000,000 |
| Current liability | 35,500,000 |
| Assets: | |
| Market value | 46,200,000 |
| Actuarial value | 45,200,000 |
| Expected benefit payments for 2005 | 4,000,000 |

Question 41

In what range is the maximum amount that the company can transfer from the pension plan to the retiree health plan in 2005?

- (A) Less than \$600,000
- (B) \$600,000 but less than \$700,000
- (C) \$700,000 but less than \$800,000
- (D) \$800,000 but less than \$900,000
- (E) \$900,000 or more

2005 EA-2B EXAMINATION
ANSWER KEY

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