Solutions to EA-2(B) Examination
Spring, 2007

Question 1

IRC section 411(a)(4)(C) provides that years of service prior to the effective date of a new plan can be excluded for vesting purposes, provided that the employer has not maintained a predecessor plan. Since there has never been any other plan maintained by the employer, the statement is true.

Answer is A.

Question 2

ERISA section 4043(c)(7)(A) states that a reportable event occurs if there is a distribution to a substantial owner of at least $10,000. In this question, there are two distributions of $7,500 each. Each distribution alone would not constitute a reportable event. However, ERISA regulation 4043.27(a)(2) indicates that for purposes of determining whether $10,000 or more has been distributed, all distributions to the substantial owner during the 12-month period ending on any distribution date must be combined. Since the two $7,500 distributions were made more than 12 months apart, they do not need to be combined, no reportable event has occurred, and the statement is false.

Answer is B.

Question 3

ERISA section 101(f) requires an annual funding notice to be distributed each year to participants and beneficiaries of a multiemployer plan. ERISA regulation 2520.101-4(a)(2) indicates that the only exception to this requirement is for a year in which the plan is receiving financial assistance from the PBGC under ERISA section 4261. Therefore, the Annual Funding Notice is required regardless of the funded current liability percentage, and the statement is false.

Answer is B.

Question 4

In 2007, Smith is in his 29th year of service, and is no longer earning benefit accruals. However, IRS regulation 1.410(b)-3(a)(2)(iii)(B) provides that an employee no longer accruing benefits due to a maximum number of years of accrual service is still treated as benefiting under the plan for the year. Therefore, the statement is true.

Answer is A.

Question 5

ERISA regulation 901.2(a) states that an enrolled actuary may practice with regard to ERISA and the regulations under ERISA. Therefore, an enrolled actuary may practice with regard to IRC section 411(a). The statement is true.

Answer is A.

Question 6

When a qualified plan has more than one form of joint and survivor optional benefit, then the most valuable joint and survivor option must be deemed the Qualified Joint and Survivor Annuity (QJSA). This is not necessarily the option that pays the greatest survivor percentage. It is the one with the greater actuarial value that would be considered the most valuable. Therefore, the statement is false. See IRS regulation 1.401(a)-20, Q&A 16.

Answer is B.

Question 7

The same actuarial assumptions as are used to determine the minimum funding requirement must be used to determine the current liability for purposes of the variable rate premium. This would include the pre-participation phase-in election. The statement is true. See the PBGC premium instructions and ERISA section 4006(a)(3)(E)(i)(I).

Answer is A.

Question 8

IRC section 4974(a) provides for a 50% excise tax to be paid by the participant or beneficiary under the plan. IRS regulation 54.4974-2, Q&A 7 indicates that the excise tax may be waived if it can be shown that the underpayment of the minimum required distribution was due to reasonable error and that reasonable steps are being taken to remedy the error. The statement is true.

Answer is A.

Question 9

The required aggregation group for purposes of determining whether a plan or plan(s) of the same employer are top heavy includes each plan of the employer that contains at least one key employee (see IRC section 416(g)(2)(A)(i)). IRS regulation 1.416-1, Q&A T-3 indicates that even a plan covering only collectively bargained employees must be aggregated for purposes of determining top heavy status. The statement is true. Note that the collectively bargained plan may not have to provide the minimum benefits and contribution otherwise required for top heavy plans.

Answer is A.

Question 10

Prior to the Pension Protection Act of 2006 (PPA), the excess assets in the case of a spinoff within the same employer (or controlled group of employers) were allocated in proportion to the excess of the full funding limit liability over the present value of accrued benefits on a plan termination basis (see IRC section 414(l)(2)(B)(i)). Under PPA, the full funding liability has been replaced for a single employer plan by the sum of the funding shortfall and target normal cost. In either case, the excess assets are not allocated in proportion to current liability. The statement is false.

Answer is B.

Question 11

The annual benefit paid during any limitation year of a defined benefit plan cannot exceed the limitations of IRC section 415. Although the distribution date for Smith does not begin until the last month of the year, the distribution as limited by IRC section 415 would be limited to no less than 100% of the IRC section 415 limit, not 1/12th of that limit. This is made clear both in the definition of limitation year in original ERISA IRS regulation 1.415-2(b) and in the new IRS regulation 1.415(b)-1(a)(1) that became effective in early 2007. The statement is false.

Answer is B.

Question 12

The premium snapshot date is the last day of the prior year, so for purposes of determining the 2007 PBGC variable premium, the value of the assets would be determined as of the end of 2006. Since the change in the asset valuation method has not taken place as of the end of 2006, the method used to value the assets would be the same as that used for the 2006 premium. The statement is true.

Note that beginning in 2007, market value of assets should be used rather than actuarial value of assets, so this issue would be irrelevant in the future. For purposes of the 2007 EA-2B exam, this change to the PBGC variable premium calculation was made after the December 31, 2006 cut-off date and should have been ignored for exam purposes.

Answer is A.

Question 13

One of the methods allowed for dealing with excess assets in a terminated plan is to amend the plan to increase benefits to the participants to use up all or part of the excess assets. Therefore, Title IV of ERISA does allow for the amendment of a plan to increase benefits after the plan termination date. The statement is true.

Answer is A.

Question 14

IRS regulation 1.415-5(a)(3) provides that increases in the IRC section 415(b) dollar limit can be applied to current, terminated, and retired participants. The annual benefit payable to a terminated or retired participant can only be increased for cost of living increases to the dollar limit if the plan has a provision providing for the increase. The statement is true.

Note that this provision is also provided for in the new regulations under IRC section 415 that became effective in early 2007.

Answer is A.

Question 15

Receivable contributions only for the prior plan year can be included in the asset value for purposes of determining whether a filing under ERISA section 4010 is required. Thus, the contribution made for the 2007 plan year would not be added to the fair market value of the assets as of 12/31/2006 in order to make an ERISA section 4010 determination for 2007. The statement is false. See PBGC Technical Update 96-3, Q&A 13.

Answer is B.

Question 16

An enrolled actuary cannot provide services that they believe would be used in a manner inconsistent with the law. There is no exception for providing a disclaimer. The statement is false. See ERISA regulation 901.20(b).

Answer is B.

Question 17

Under the Alternative Calculation Method, the PBGC variable premium is calculated by first determining the difference between the adjusted value of vested benefits under current liability assumptions as of the first day of the prior year and the adjusted value of plan assets as of the first day of the prior year. The difference is then increased with interest for one year using the current year PBGC required interest rate. The result is then rounded up to the next thousand dollars, and multiplied by .9%.

In this question, the current liability is provided as of 1/1/2006 for each of the following categories of participants: retired and beneficiaries receiving payments, terminated vested, and actives. (Note that the given Schedule B current liabilities are as of the valuation date, which must be assumed to be the first day of the plan year due to the general conditions of the exam since no other valuation date is provided.) The adjustment factors are given in the instructions to the PBGC premium form (Schedule A), as well as in an attachment to the exam.

The adjustment factor for retired participants and beneficiaries in pay status is:

$.94^{(RIR - BIR)}$

The adjustment factor for the active and terminated vested participants is:

$.94^{(RIR - BIR)} \times ((100 + BIR)/(100 + RIR))^{(ARA - 50)} \times 1.07$

In the above formulas, RIR is the required interest rate for the PBGC premium year, BIR is the current liability interest rate used in the current liability calculation for the year prior to the PBGC premium year (2006 in this case), and ARA is the assumed retirement age. Note that the 7% increase for the active and terminated participants represents an estimate of the increase in accrued benefit for the year (in this case the 2006 year). (This 7% increase is not part of the factor provided in the attachment to the exam.)

The adjusted value of vested benefits for the retired participants as of 1/1/2006 is:

$2{,}154{,}000 \times .94^{(5.00 - 5.10)} = 2{,}167{,}369$

The adjusted value of vested benefits for the non-retired participants as of 1/1/2006 is:

$(878{,}000 + 2{,}740{,}000) \times .94^{(5.00 - 5.10)} \times (105.10/105.00)^{(65 - 50)} \times 1.07 = 3{,}951{,}307$

The adjusted value of plan assets must be determined as of 1/1/2006 by subtracting contributions receivable and adding back all contributions for each year prior to the current year, each discounted with interest at the PBGC required interest rate (for 2007) from the date they were deposited to 1/1/2006. Note that the given asset value includes the receivable contribution for 2005. The interest adjusted receivable contribution for 2005 and the interest adjusted contribution for 2006 must be added back to the 1/1/2006 actuarial value of assets. The adjusted value of the plan assets is:

$5,234,000 – 250,000 + 250,000/1.05^{6/12} + 330,000/1.05 = 5,542,261$

Adjusted $UVB_{1/1/2007} = (2,167,369 + 3,951,307 – 5,542,261) \times 1.05 = 605,236$

2007 variable premium = $606,000 × .009 = $5,454

Answer is B.

Question 18

The minimum allocation gateway requirement under the regulations of IRC section 401(a)(4) must be satisfied in order to test a combination of defined benefit and defined contribution plans on a benefits basis for purposes of the 401(a)(4) general test. This test can be satisfied one of two ways. The general rule (IRS regulation 1.401(a)(4)-9(b)(2)(v)(D)(1)) is satisfied if the aggregate allocation rate for each NHCE is at least ⅓ of the aggregate allocation rate of the HCE with the greatest rate. Alternatively, the general rule is satisfied if each NHCE has an aggregate allocation rate of at least 5% (provided that the HCE rate does not exceed 25%). IRS regulation 1.401(a)(4)-9(b)(2)(v)(D)(3) allows for the averaging of the defined benefit plan allocation rates of the NHCEs. In this case, each NHCE is deemed to have the same defined benefit plan allocation rate, equal to the average.

The aggregate allocation rate for each participant is equal to the sum of the separate allocation rates from the defined contribution and defined benefit plans (IRS regulation 1.401(a)(4)-9(b)(2)(ii)(A)). The allocation rate is equal to the ratio of the contribution to the annual salary for the year. For purposes of the defined benefit plan, the contribution is deemed to be the present value of the accrual for the year. Compensation must be limited to the current year IRC section 401(a)(17) limit.

2007 aggregate allocation rate for HCE:

DC plan: 25,000/225,000 = 11.11%

DB plan: $[8,000 \times \ddot{a}_{65}^{(12)} \times v_{8.5\%}^{10}]/225,000 = [8,000 \times 8.375 \times 0.442285]/225,000$
$= 13.17\%$

Total = 11.11% + 13.17% = 24.28%

2007 aggregate allocation rate for NHCE #1:

DC plan: 1,400/20,000 = 7.00%
DB plan: $[400 \times \ddot{a}_{65}^{(12)} \times v_{8.5\%}^{25}]/20{,}000 = [400 \times 8.375 \times 0.130094]/20{,}000 = 2.18\%$
Total = 7.00% + 2.18% = 9.18%

2007 aggregate allocation rate for NHCE #2:

DC plan: 2,000/30,000 = 6.67%
DB plan: $[475 \times \ddot{a}_{65}^{(12)} \times v_{8.5\%}^{23}]/30{,}000 = [475 \times 8.375 \times 0.153150]/30{,}000 = 2.03\%$
Total = 6.67% + 2.03% = 8.70%

The aggregate allocation rate for NHCE #3 must be at least 5% (the smaller of ⅓ of the HCE percentage or 5%) in order to satisfy the general rule of the minimum allocation gateway. The benefit accrual for the defined benefit plan can be solved as below in order to insure that the allocation rates for the two plans add to 5%.

2007 aggregate allocation rate for NHCE #3:

DC plan: 1,200/40,000 = 3.00%
The DB plan must provide for an allocation rate of at least 2.00% (so that the total is 5%).
DB plan: $[X \times \ddot{a}_{65}^{(12)} \times v_{8.5\%}^{2}]/40{,}000 = [X \times 8.375 \times 0.849455]/40{,}000 = 2.00\%$
X = 112.45

IRS regulation 1.401(a)(4)-9(b)(2)(v)(D)(3) provides an option to average the defined benefit allocation rates for the NHCEs. In that case, each NHCE is deemed to have a defined benefit allocation rate equal to the average. Since the average must be at least 2% (the percentage that NHCE #3 needs in order to have an aggregate rate of 5%), the minimum defined benefit allocation percentage for NHCE #3 can be determined as Y%, where Y is based upon:

$$\frac{2.18\% + 2.03\% + Y\%}{3} = 2\% \qquad \Rightarrow \qquad Y\% = 1.79\%$$

Using a benefit allocation rate of 1.79% for NHCE #3, the 2007 accrual from the defined benefit plan can be determined.

$[X \times \ddot{a}_{65}^{(12)} \times v_{8.5\%}^{2}]/40{,}000 = [X \times 8.375 \times 0.849455]/40{,}000 = 1.79\% \quad \Rightarrow \quad X = 100.64$

Since averaging the defined benefit allocation rates produces a smaller result than not averaging, the lowest value of X is $100.64.

Answer is B.

Question 19

IRC section 411(d)(6) requires that an accrued benefit cannot be reduced due to any plan amendment. The early retirement benefit attributable to the benefit accrued prior to the amendment on 1/1/2002 must therefore be protected.

The early retirement benefit that is protected for Smith is based upon the pre-amendment plan early retirement factors and the benefit accrued on 1/1/2002. As of 1/1/2007, Smith's actual retirement date at age 60, this is:

$\$1{,}000 \times [1 - (4\% \times 5 \text{ years})] = \$800/\text{month}$

This must be compared to the early retirement benefit that Smith would receive on 1/1/2007 based upon the total accrued benefit and the amended early retirement factors.

$\text{Accrued benefit}_{1/1/2007} = \$1{,}000 + [1\% \times (\$60{,}000/12) \times 5 \text{ years of service}] = \$1{,}250$
$\text{Early retirement benefit}_{1/1/2007} = \$1{,}250 \times [1 - (5\% \times 5 \text{ years})] = \$937.50/\text{month}$

Smith must receive the greater of the protected $800 or the amount calculated under the current plan provisions of $937.50. Therefore, the monthly benefit payable to Smith is $937.50.

Answer is B.

Note: This question is similar to example 1 in IRS regulation 1.411(d)-3(b)(4).

Question 20

A qualified pre-retirement survivor annuity (QPSA) is payable at the earliest possible retirement age of the plan participant (see IRC section 417(c)(1)(B)). Smith was age 50 with 7 years of service at the date of death. Therefore, the earliest retirement age would be when Smith would have been age 55. (Note that had Smith not already worked the required 5 years of service, it would be assumed that Smith would have never satisfied the early retirement requirements, and the earliest retirement age would have been normal retirement age.) Smith can be assumed to be 100% vested since that is required with 7 years of service. Note that there is no requirement to fully vest upon death, unlike attaining normal retirement age under IRC section 411(a)(8).

Smith's vested accrued benefit as of the date of death, with reduction of 2% for 10 years to the earliest possible retirement age of 50:

$\$1{,}000 \times [1 - (2\% \times 10 \text{ years})] = \$800$

Since the cost of the benefit is fully subsidized by the employer, it can be converted from the normal form (a life annuity per the general conditions of the exam) to a joint and 50% survivor annuity (the minimum QPSA under IRC section 417(c)(1)(A)). The conversion is given to be 95%, regardless of age.

$\$800 \times .95 = \$760$

The spouse is entitled to half of this:

$50\% \times \$760 = \$380$

The spouse is age 50 as of 1/1/2007 and would turn age 55 at the same time as Smith since they have the same birth date. The present value of the spousal benefit (payable beginning at age 55) is:

$$\begin{aligned}\$380 \times 12\,\ddot{a}_{55}^{(12)} \times (D_{55} / D_{50}) &= \$380 \times 12 \times 13.15 \times [(D_{65} / D_{50}) / (D_{65} / D_{55})] \\ &= \$380 \times 12 \times 13.15 \times (0.3880/0.5253) \\ &= \$44{,}291\end{aligned}$$

Answer is B.

Question 21

IRS regulation 1.401(a)(4)-5(b)(3) deals with restriction of benefit payments to the top 25 paid highly compensated employees. Payment of a benefit in excess of a straight life annuity that is actuarially equivalent to the accrued benefit plus a social security supplement is not allowed unless at least one of three requirements under regulation 1.401(a)(4)-5(b)(3)(iv) is met.

The first requirement is that after the distribution, the value of the plan assets is at least as large as 110% of the value of the current liabilities under the plan. This is stated in statement I, so that statement is true.

The second requirement is that the benefit to be paid is less than 1% of the value of the current liabilities under the plan before the distribution. Statement II refers to the plan assets, not the current liability, so that statement is false.

The third requirement is that the benefit payable is not more than the maximum amount allowed under IRC section 411(a)(11)(A). That is the maximum that a participant can be forced to take as a lump sum cash out of their benefits, which is $5,000. This is stated in statement III, so that statement is true.

Answer is B.

Question 22

For purposes of the average benefit percentage, all plans of the employer that have been aggregated or could have been permissively aggregated must be combined as required by IRS regulation 1.410(b)-7(e)(1). This includes money from 401(k) and 401(m) plans that otherwise cannot be aggregated (IRS regulation 1.410(b)-7(e)(1)(iii)). Catch-up contributions under IRC section 414(v) are not included in the determination of the average benefit percentage to the extent that they are made for the current year (IRS regulation 1.414(v)-1(d)(3)(ii)). Although plans with different plan years generally may not be aggregated for purposes of IRC section 410(b), they are aggregated for purposes of the average benefit percentage (IRS regulation 1.410(b)-7(e)(1)(ii)). When aggregating plans with different plan years, the plans are combined based upon the plan years that end within the same calendar year (IRS regulation 1.410(b)-5(d)(3)(ii)). Therefore, the defined benefit plan year ending 6/30/2006 and 401(k) profit sharing plan year ending 12/31/2006 should be used to determine the average benefit percentage for 2006.

The aggregate allocation rate for each participant is equal to the sum of the separate allocation rates from the defined contribution and defined benefit plans (IRS regulation 1.401(a)(4)-9(b)(2)(ii)(A)). The allocation rate is equal to the ratio of the contribution to the annual salary for the year (use the salary for the specific plan year for each plan). For purposes of the defined benefit plan, the contribution is deemed to be the present value of the accrual for the year.

2006 benefit percentage on an allocation basis for Smith:

401(k) profit sharing plan: (5,000 + 7,200)/75,000 = 16.27%
Defined benefit plan: $[1{,}500 \times \ddot{a}_{65}^{(12)} \times v_{8.0\%}^{25}]/80{,}000$

$= [1{,}500 \times 9.35 \times 0.146018]/80{,}000 = 2.56\%$

Total = 16.27% + 2.56% = 18.83%

Answer is C.

Note: This question has a flaw in the data because Smith is age 40 and not allowed to make a catch-up contribution under IRC section 414(v). Catch-up contributions are only allowed for participants age 50 or older (IRC section 414(v)(5)(A)). In any case, the catch-up contribution is not taken into account for the average benefit percentage. There is the issue of whether the catch-up contribution made in error has been included in the given compensation (catch-up contributions made in error must be included in the taxable compensation of the participant). However, regardless of whether it has or has not been included in the $75,000 compensation for Smith, the difference in compensation is not large enough in this question to put the average benefit percentage into a different answer range.

Question 23

There are three steps involved in allocating items for purposes of a spin-off:

1. Allocate the market value of assets
2. Allocate the credit balance
3. Allocate the outstanding balance of the amortization bases

In Plan A, the market value of the assets is less than the plan termination liability. In that case, Revenue Ruling 81-212 indicates that the assets are to be allocated by PBGC priority category. Since the market value of the assets is $100,000,000, there is enough money to pay for the entire $60,000,000 in categories 1 – 3, the entire $30,000,000 in category 4, and $10,000,000 of the category 5 present values. The money left for category 5 must be allocated proportionately to the plan participants:

	Plan A	Plan B	Plan C
Category 1-3	$60,000,000	$18,000,000	$42,000,000
Category 4	30,000,000	6,000,000	24,000,000
Category 5	40,000,000	3,000,000	37,000,000
Cat 5 assets*	10,000,000	750,000	9,250,000
Total**	100,000,000	24,750,000	75,250,000

* Category 5 assets allocated proportionately to the total category 5 termination liability
** Total equals Category 1 - 4 liability plus total from category 5

Next, the credit balance must be allocated. Revenue Ruling 81-212 also indicates that the credit balance is allocated by first allocating the difference between the market value of assets and the credit balance in the same manner as the market value of assets was allocated. Since the credit balance is $15,000,000, the difference between the market value and the credit balance is $85,000,000. In this case, there is enough money to pay for the category 1 through 3 benefits, and $25,000,000 of the category 4 benefits. Allocating as above (but through category 4),

	Plan A	Plan B	Plan C
Category 1 - 3	$60,000,000	$18,000,000	$42,000,000
Category 4	30,000,000	6,000,000	24,000,000
Cat 4 assets (less CB)	25,000,000	5,000,000	20,000,000
Total assets less CB	85,000,000	23,000,000	62,000,000

The credit balance allocation is equal to the difference between the market value of assets allocated and the allocated assets less the credit balance:

	Plan A	Plan B	Plan C
Market value	$100,000,000	$24,750,000	$75,250,000
Total assets less CB	85,000,000	23,000,000	62,000,000
CB***	15,000,000	1,750,000	13,250,000

***Difference between Market value and Total assets less CB

Also according to Revenue Ruling 81-212, the actuarial value of the assets is allocated proportionately to the market value of assets:

	Plan A	Plan B	Plan C
Market value	$100,000,000	$24,750,000	$75,250,000
Actuarial value	110,000,000	27,225,000	82,775,000

Recalling the balance equation, and assuming that the cost method is an immediate gain method (the problem cannot be solved without this assumption),

Unfunded liability = Outstanding balance – credit balance
AL – actuarial assets = Outstanding balance – credit balance
Outstanding balance = AL – actuarial assets + credit balance

The last equation above will allow for the allocation of the total outstanding balance between the spun-off plans.

	Plan A	Plan B	Plan C
Accrued liability	$140,000,000	$34,000,000	$106,000,000
Actuarial value	110,000,000	27,225,000	82,775,000
CB	15,000,000	1,750,000	13,250,000
Outstanding balance	45,000,000	8,525,000	36,475,000

The outstanding balance in Plan B immediately after the spin-off is $8,525,000.

Answer is C.

Question 24

The PBGC variable rate premium can be determined under the General Method or the Alternative Calculation Method.

Under the General Method, the PBGC variable premium is calculated by first determining the difference between the value of vested benefits using the PBGC required interest rate as of the first day of the current year (the year for which the premium is being determined) and the adjusted value of plan assets as of the first day of the current year. The result is then rounded up to the next thousand dollars, and multiplied by .9%.

In this question, the current liability interest rate for 2006 is the same as the PBGC required interest rate for 2007. Since the plan is frozen, no benefits were accrued during 2006, and it is given that there were no benefit payments or any other gains or losses during 2006. Therefore, the value of vested benefits as of 1/1/2007 using the 2007 PBGC required interest rate is equal to the 1/1/2006 current liability of vested benefits for the active participants increased with one year of interest at 5%.

Value of vested benefits$_{1/1/2007}$ = 600,000 × 1.05 = 630,000

The adjusted value of plan assets is equal to the market value of assets as of 1/1/2007, increased by interest adjusted receivable contributions for 2006. There are no receivable contributions for 2006, so the adjusted value of plan assets is 640,000.

The excess of the value of vested benefits over the adjusted value of plan assets is:

630,000 – 640,000 = 0

Therefore, the smallest variable rate premium for 2007 is $0.

Answer is A.

Note that it is not necessary to determine the premium under the alternative calculation method since the premium cannot be less than 0. Also, beginning in 2007, the assets used for purposes of the variable rate premium are the market value. For years prior to 2007, the actuarial value of assets was used. In a question such as question 17, where market value was not provided, it was assumed that the actuarial value is equal to the market value.

Question 25

The IRC section 415(b)(1)(B) compensation limit is 100% of the high consecutive three-year average salary, which is $200,000. This is reduced for years of service less than 10. Since Smith had 12 years of service through the retirement date of 1/1/2007, there is no reduction for years of service less than 10 years.

The IRC section 415(b)(1)(A) dollar limit for 2007 is $180,000. It must be reduced by 1/10 for each year of plan participation for Smith less than 10 years. Smith only participated in the plan for 9 years. Therefore, the reduced dollar limit is:

$$\$180{,}000 \times 9/10 = \$162{,}000$$

The 415(b) limit is equal to the smaller of the compensation limit or the dollar limit. This is the dollar limit of $162,000.

The 415(b) limit must be further reduced if the benefit is paid in a form other than a life annuity (the normal form under IRC section 415(b)) or a qualified joint and survivor annuity. Since the beneficiary of the elected joint and survivor annuity is not Smith's spouse, it is not a qualified joint and survivor annuity. The reduced amount is equal to the smaller of the joint and survivor annuity actuarially equivalent to the 415(b) life annuity using either the plan's actuarial equivalence assumptions (5% interest and the 1983 GAM female table) or the mandated 415 assumptions (5% interest and the applicable mortality table).

The adjusted 415(b) limit using each set of assumptions is:

Plan: $162{,}000 \times \ddot{a}_{62(5.25\%)} \div \ddot{a}_{\overline{62:40}(5.25\%)} = 162{,}000 \times 12.85 \div 17.53 = 118{,}751$

Mandated: $162{,}000 \times \ddot{a}_{62(5.00\%)} \div \ddot{a}_{\overline{62:40}(5.00\%)} = 162{,}000 \times 13.14 \div 18.13 = 117{,}412$

The smaller of these is 117,412.

Answer is A.

Question 26

The excise tax upon reversion of excess assets to an employer when a plan terminates is generally 20% of the amount of the reversion under IRC section 4980(a). However, unless the employer transfers at least 25% of the excess to a qualified replacement plan under IRC section 4980(d)(2) or provides benefit increases to the plan participants resulting in a reallocation of at least 20% of the excess under IRC section 4980(c)(3), the excise tax percentage is increased to 50%.

In order to determine what the excise tax percentage is that is applicable to the employer in this question, it is first necessary to determine the liability to the participants under the plan (the present value of the accrued benefits).

Each participant has elected to receive a lump sum distribution, so the lump sum is equal to the greater of the lump sum value using plan actuarial equivalence, or the lump sum value using IRC section 417(e)(3) assumptions (the applicable mortality table and the applicable interest rate). Since the plan equivalence is also based on the applicable mortality table, and the applicable interest rate of 5.5% is less than the plan equivalence interest rate of 7%, the 417(e)(3) assumptions will clearly provide the larger present values. No pre-retirement mortality is assumed since the plan equivalence assumptions provide for no pre-retirement mortality.

The present value of accrued benefits is:

Smith: $\$328 \times 12\, a^{(12)}_{62(5.5\%)} \times v^{17}_{5.5\%} = \$328 \times 12 \times 10.49 \times 0.402447 = \$16{,}616$

Jones: $\$254 \times 12\, a^{(12)}_{62(5.5\%)} \times v^{27}_{5.5\%} = \$254 \times 12 \times 10.49 \times 0.235604 = \$7{,}533$

Total = \$16,616 + \$7,533 = \$24,149

The excess assets are:

\$40,000 - \$24,149 = \$15,851

The profit sharing plan qualifies as a qualified replacement plan. 50.47% of the excess assets are transferred to the qualified replacement plan (at least 25%), so the excise tax on the reversion of assets is 20%.

Excise tax = (\$15,851 - \$8,000) × 20% = \$1,570

Answer is A.

Question 27

Employer X withdraws during 2007, so the withdrawal liability is based upon Employer X's share of unfunded vested benefits (UVBs) as of 12/31/2006 (the last day of the year before withdrawal). Under the rolling five withdrawal liability method, the UVBs are reduced by the liability expected to be collected by previously withdrawn employers. In this case, there are no previously withdrawn employers.

The UVB as of 12/31/2006 must be multiplied by the ratio of the employer contributions for Employer X for the five-year period ending on 12/31/2006 to the ratio of the contributions for all employers for the same period. This ratio is:

$$\frac{15{,}120 + 7{,}260 + 7{,}200 + 6{,}800 + 6{,}930}{507{,}600 + 475{,}200 + 459{,}000 + 510{,}000 + 480{,}150} = .017809$$

Employer X's share of the UVBs is:

$$\$6{,}150{,}000 \times .017809 = \$109{,}525$$

The de minimis rule of ERISA section 4209(a) must be applied. When the mandatory de minimis credit is applied, a credit against Employer X's share of the UVBs is determined, equal to the smaller of $50,000 or .75% of the total UVB (before reduction for amounts expected to be collected from previously withdrawn employers). The smaller of the two is:

$$.0075 \times \$6{,}150{,}000 = \$46{,}125$$

The de minimis credit is phased out dollar-for-dollar for every dollar that Employer X's share of the UVBs exceeds $100,000. Since the share of the UVBs exceeds $100,000 by $9,525, the de minimis credit is reduced to $36,600 ($46,125 - $9,525). The complete withdrawal liability for Employer X is $72,925 ($109,525 - $36,600).

The annual withdrawal liability payment under ERISA section 4219(c)(1)(C) is equal to the product of the largest contribution rate in the past 10 years (ending in 2007, the year of the complete withdrawal) and the highest consecutive 3-year average of the contribution base units of Employer X in the past 10 years (ending in 2006, the year prior to the year of the complete withdrawal). The annual withdrawal liability payment is:

$$0.37 \times \frac{50{,}000 + 60{,}000 + 55{,}000}{3} = 20{,}350$$

In order to determine how many payments are necessary to pay off the withdrawal liability, it is assumed that payments begin on an annual basis on the first day of the year following the year of withdrawal (see ERISA section 4219(c)(1)(A)), using the valuation interest rate for purposes of amortizing the payments.

Although the complete withdrawal liability was determined as of 12/31/2006, it must be amortized beginning on 1/1/2008. The question arises as to whether an additional year of interest must be credited for the 2007 calendar year. ERISA section 4219(c) is silent on this issue. There is, however, a Supreme Court ruling indicating that in the opinion of the Supreme Court, it was Congress intent that no interest be credited for the one year time lapse between the determination of the withdrawal liability and the date that the amortization begins. It is with regard to that Supreme Court ruling that this question is intended to be solved. The equation of value with respect to the amortization of the liability payments is:

$72{,}925 = 20{,}350\,\ddot{a}_{\overline{n}|.08}$

$\ddot{a}_{\overline{n}|.08} = 3.5835$

$\frac{1 - v^n}{.08} \times 1.08 = 3.5835$

$1 - v^n = 0.2654$

$v^n = 0.7346$

$\log(v^n) = \log(0.7346)$

$n \times (-0.0334) = -0.1339$

$n = 4.0090$

Therefore, payments will continue for 4 years, with a partial payment in the 5th year. The outstanding balance after the first 4 years of payments is:

Outstanding balance on 1/1/2012 $= (72{,}925 \times 1.08^4) - (20{,}350\,\ddot{s}_{\overline{4}|.08})$

$= 99{,}214 - 99{,}035 = 179$

The total withdrawal liability payments will be:

$(20{,}350 \times 4) + 179 = 81{,}579$

Answer is C.

Question 28

The PBGC guaranteed benefit for a multiemployer plan under ERISA section 4022A(b)(1) is based upon the benefit formula in effect 60 months before the plan termination date. For this purpose, if a plan amendment is adopted after its effective date, the adoption date is deemed to be the effective date.

The amount that is guaranteed under ERISA section 4022A(c)(1) is a monthly amount up to the first $11 of vested accrued benefit per year of service, plus 75% of up to an additional $33 of vested accrued benefit.

The benefit formula in effect on 1/1/2002 (60 months prior to the plan termination date) is the $30 per month formula. Note that the $35 per month formula, although effective on 1/1/2002, was not adopted until 1/1/2003 and is therefore deemed to be effective on 1/1/2003 for purposes of determining guaranteed benefits. The guaranteed portion of the $30 per month benefit is:

$11 + [75% × ($30 - $11)] = $25.25

Note that since all participants have at least 7 years of service, they must be fully vested under any vesting schedule allowed under IRC section 411(a).

There are 10 participants with 30 years of service, and 40 participants with 10 years of service. The total guaranteed monthly benefit of these participants is:

$25.25 × [(10 × 30 years) + (40 × 10 years)] = $17,675

Answer is B.

Question 29

The plan only allows for the use of 5 years of pre-participation service, so Smith only has 8 years of benefit service as of 12/31/2007. Smith's plan accrued benefit on 12/31/2007 is:

$$11.5\% \times 50{,}000 \times 8 \text{ years of service} = 46{,}000$$

The benefit must be limited, if necessary, under the rules of IRC section 415.

The IRC section 415(b)(1)(B) compensation limit is 100% of the high consecutive three-year average salary, which is $50,000. This is reduced for years of service less than 10. For this purpose, all years of service with the employer is used (the limitation of 5 years of pre-participation service for benefit purposes in this plan does not impact the IRC section 415 maximum benefit). Therefore, the compensation limit is:

$$50{,}000 \times 9/10 = 45{,}000$$

The IRC section 415(b)(1)(A) dollar limit for 2007 is $180,000. It must be reduced by 1/10 for each year of plan participation for Smith less than 10 years. Smith has only participated in the plan for 3 years. Therefore, the reduced dollar limit is:

$$180{,}000 \times 3/10 = 54{,}000$$

The dollar limit must be further reduced from age 62 to the normal retirement age of 60 (Smith will have 5 years of plan participation at age 60). The reduced amount is equal to the smaller of the actuarially reduced benefit using either the plan's actuarial equivalence assumptions (5% interest and the 1983 GAM female table) or the mandated 415 assumptions (5% interest and the applicable mortality table).

Since there is a pre-retirement death benefit (no forfeiture upon the death of the participant), the reduction between ages 62 and 60 must be based upon interest only. The equivalency is on a life only basis. The adjusted dollar limit using each set of assumptions is:

Plan: $54{,}000 \times \ddot{a}^{(12)}_{62} \times v^{2}_{5\%} \div \ddot{a}^{(12)}_{60} = 54{,}000 \times 13.44 \times 0.90703 \div 13.98 = 47{,}088$

Mandated: $54{,}000 \times \ddot{a}^{(12)}_{62} \times v^{2}_{5\%} \div \ddot{a}^{(12)}_{60} = 54{,}000 \times 12.68 \times 0.90703 \div 13.25$

$= 46{,}873$

The smaller of these is 46,873.

The overall IRC section 415 limit is equal to the smaller of the dollar limit or the compensation limit. In this case, that is the compensation limit of 45,000.

The IRC section 415 limit is smaller than the plan accrued benefit, so Smith's benefit is limited to 45,000 per year, or 3,750 per month.

Answer is B.

Question 30

The question is asking for the ratio percentage of the rate group determined by HCE4. Each HCE determines a rate group under the general test of IRS regulation 1.401(a)(4)-2(c). The rate group includes the HCE (in this case, HCE4) and all other participants with an allocation rate at least as large as that of the HCE (HCE4). The ratio percentage is equal to the ratio of the percentage of NHCEs who are non-excludable employees and are benefiting in the rate group to the percentage of HCEs who are non-excludable employees and are benefiting in the rate group. Since the given employees are indicated to be "all employees", it can be assumed that all employees are non-excludable (they all have an allocation, so they are not excluded from participation in the plan).

Permitted disparity can optionally be imputed for purposes of determining the allocation rates under IRS regulation 1.401(a)(4)-7(b). It is given in this question that permitted disparity is to be imputed. For employees with compensation no larger than the taxable wage base ($94,200 in 2006), disparity is imputed under IRS regulation 1.401(a)(4)-7(b)(2) as the smaller of two results:

(1) Twice the unadjusted allocation rate, or
(2) The unadjusted allocation rate plus the permitted disparity rate

In 2006, the permitted disparity rate for a defined contribution plan is 5.7%. Clearly, for participants with an unadjusted allocation rate that is less then 5.7%, the smaller of the two results would be twice the unadjusted allocation rate. In examining the given employee information, each NHCE would be subject to this method of imputing disparity since each NHCE has earned $50,000 in 2006 (less than the taxable wage base). Furthermore, each NHCE has an unadjusted allocation rate less than 5.7%, so the imputed allocation rate for each NHCE is equal to twice the unadjusted rate.

Employee	Imputed allocation rate
NHCE1	10.00%
NHCE2	8.00%
NHCE3	7.00%
NHCE4	6.40%
NHCE5	6.00%
NHCE6	5.00%
NHCE7	2.24%
NHCE8	2.02%
NHCE9	1.70%
NHCE10	1.60%

For employees with compensation larger than the taxable wage base, disparity is imputed under IRS regulation 1.401(a)(4)-7(b)(3) as the smaller of two results:

(1) $\dfrac{\text{Allocation}}{\text{Compensation} - \frac{1}{2}\text{Taxable wage base}}$, or

(2) $\dfrac{\text{Allocation} + (\text{Permitted disparity rate} \times \text{Taxable wage base})}{\text{Compensation}}$

The smaller of the two rates must be determined for each HCE.

HCE1

(1) $\dfrac{4{,}500}{100{,}000 - \frac{1}{2}(94{,}200)} = 8.507\%$

(2) $\dfrac{4{,}500 + (.057 \times 94{,}200)}{100{,}000} = 9.869\%$

Smaller = 8.507%

HCE2

(1) $\dfrac{3{,}250}{100{,}000 - \frac{1}{2}(94{,}200)} = 6.144\%$

(2) $\dfrac{3{,}250 + (.057 \times 94{,}200)}{100{,}000} = 8.619\%$

Smaller = 6.144%

HCE3

(1) $\dfrac{2{,}250}{100{,}000 - \frac{1}{2}(94{,}200)} = 4.253\%$

(2) $\dfrac{2{,}250 + (.057 \times 94{,}200)}{100{,}000} = 7.619\%$

Smaller = 4.253%

HCE4

(1) $\dfrac{1{,}200}{100{,}000 - \frac{1}{2}(94{,}200)} = 2.268\%$

(2) $\dfrac{1{,}200 + (.057 \times 94{,}200)}{100{,}000} = 6.569\%$

Smaller = 2.268%

The rate group for HCE4 would therefore include all of the HCEs (they all have an imputed allocation rate at least as large as the HCE4 allocation rate of 2.268%) and NHCEs 1 through 6 (they all have an imputed allocation rate at least as large as the HCE4 allocation rate of 2.268%). The remaining 4 NHCEs are not in the rate group.

The ratio percentage for the rate group determined by HCE4 is:

(6/10)/(4/4) = 60%

Answer is B.

Note: Perhaps a flaw in the design of this question is that the exact same result is obtained if disparity is not imputed.

Question 31

Mandatory employee contributions are converted to accrued benefits under the rules of IRC section 411(c)(2)(C). The annual mandatory contribution for Smith is $3,000 (6% of Smith's annual compensation of $50,000). The mandatory employee contributions must be accumulated using 120% of the Federal Mid-Term Rate each year through 12/31/2005, as follows.

Accumulation of 2001 contribution = 3,000 × 1.054 × 1.0412 × 1.0423 × 1.0453 = 3,587
Accumulation of 2002 contribution = 3,000 × 1.0412 × 1.0423 × 1.0453 = 3,403
Accumulation of 2003 contribution = 3,000 × 1.0423 × 1.0453 = 3,269
Accumulation of 2004 contribution = 3,000 × 1.0453 = 3,136

The 2005 contribution was contributed on 12/31/2005 and is given no interest adjustment.

Total accumulated employee contributions as of 12/31/2005:

3,587 + 3,403 + 3,269 + 3,136 + 3,000 = 16,395

This would reflect the mandatory contribution account balance as of 1/1/2006, the date of termination for Smith.

The mandatory contribution account is accumulated to retirement age 65, and converted to a life annuity using the applicable interest rate and the applicable mortality table (also equal to the lump sum actuarial equivalence factors). As of 1/1/2006, this is based upon the applicable interest rate used for 2006 of 4.65%. The result is the equivalent benefit attributable to mandatory contributions.

Equivalent benefit = $16{,}395 \times 1.0465^{12} \div 12.15 = 2{,}328$

The plan accrued benefit as of 1/1/2006 is: 1.6% × 50,000 × 5 years of service = 4,000

The vested percentage under the 3 to 7 year vesting schedule after 5 years of service is 60%. Only the portion of the accrued benefit that is attributable to the employer contributions is subject to the vesting schedule. The portion attributable to the mandatory employee contributions is fully vested.

1/1/2006 employer-derived vested accrued benefit = [(4,000 – 2,328) × 60%] = 1,003

Answer is C.

Question 32

There are no voluntary (Priority Category 1) or mandatory (Priority Category 2) benefits in this question. The first category that Smith may have benefits is category 3. As of the plan termination date, Smith is age 60 with 20 years of service. Three years before the plan termination date, Smith was age 57 with 17 years of service, and satisfied the early retirement age requirement of the plan. The category 3 benefit for Smith is the benefit that would have been paid 3 years before the plan termination date (on 12/31/2003) if Smith had actually retired on that date, using the benefit structure in the five year period ending on the plan termination date that produces the smallest benefit. The benefit formula in effect prior to 7/1/2004 produces the smallest benefit, and Smith's final average compensation as of 12/31/2004 is $65,000.

The category 3 benefit for Smith is:

2.25% × $65,000 × 17 years of service × [1 – (3% × 8 years)] = $18,896

Expressed as a monthly benefit, this is $1,575.

The category 4 benefit is equal to the difference, if any, of the guaranteed benefit less the benefit in category 3. For this purpose, the guaranteed benefit is determined as if Smith is not a majority owner (note that in any case, it is not known whether Smith is a majority owner).

The guaranteed benefit is equal to the vested accrued benefit at the time of plan termination based upon the benefit structure in effect 5 years before the plan termination date (on 1/1/2002), with a phase in of increases in the vested accrued benefit due to changes in the benefit structure during the past 5 years. Since the question is asking for the immediate monthly life only benefit, it must be assumed that Smith elects early retirement at age 60 on the plan termination date.

The monthly vested accrued benefit based upon the benefit structure from 1/1/2002 (the 2.25% benefit formula) is:

2.25% × $80,000 × 20 years of service × [1 – (3% × 5 years)]
= $30,600/year or $2,550/month

Note that Smith must be fully vested since he has more than 7 years of service (any vesting schedule that satisfies IRC section 411(a) must provide for full vesting after 7 years of service).

The vested accrued benefit must be limited if it exceeds the PBGC maximum guaranteeable benefit. The monthly maximum for 2006 is $3,971.59, and it must be reduced for retirement at age 60 by a factor of .65 (PBGC maximum guaranteed benefits and factors for adjusting the benefit are available in tables provided with the exam).

PBGC maximum at age 60 = $3,971.59 × .65 = $2,582

The vested accrued benefit based upon the original benefit structure is not limited, and is fully guaranteed.

Next, the increase in the vested accrued benefit based upon the amended benefit structure must be phased in. The monthly vested accrued benefit based upon the benefit structure effective 7/1/2004 (the 2.50% benefit formula) is:

2.50% × $80,000 × 20 years of service × [1 – (3% × 5 years)]
= $34,000/year or $2,833/month

This benefit exceeds the PBGC maximum of $2,582, so it must be limited. The increase in vested accrued benefit under the new benefit structure (as limited by the PBGC maximum) is:

$2,582 - $2,550 = $32

The $32 is phased in over 2 years (the number of complete 12-month periods from the effective date of the amendment to the plan termination date). Since the amount being phased in is less than $100, the amount of the phase in is limited to $20/month multiplied by 2 years (the number of years that the amendment has been effective). Note that if the amount being phased in exceeds $100, the phased in amount is equal to 20% of the increase in vested accrued benefit multiplied by the number of years that the amendment has been effective.

Maximum phased in amount = $20 × 2 years = $40.

The entire $32 to be phased in is guaranteed since it does not exceed $40.

Total guaranteed benefit = $2,550 + $32 = $2,582

Category 4 benefit = Total guaranteed benefit – Category 3 benefit
= $2,582 - $1,575 = $1,007

Answer is D.

Question 33

The NHCE concentration percentage is equal to the ratio of the non-excludable non-highly compensated employees to all non-excludable employees (IRS regulation 1.410(b)-4(c)(4)(iii)). For this purpose, all employees of the employer must be taken into account other than excludable employees. Since the employer maintains multiple plans, the different eligibility requirements must be taken into account in determining the excludable employees. IRS regulation 1.410(b)-6(b)(2) indicates that when multiple eligibility requirements exist, a participant is considered excludable only if they fail to satisfy **all** of the eligibility requirements. This means that a participant is non-excludable if they satisfy the most lenient of the eligibility requirements. In this case, that would be the eligibility requirements of Plan A, which requires no minimum age or service requirement. In addition, the union employees are deemed to be excludable since that portion of the plan must be disaggregated under IRS regulation 1.410(b)-6(d). All employees other than the union employees are, therefore, deemed to be non-excludable.

Total NHCEs from both divisions = 1,750 + 350 + 600 + 75 = 2,775
Total HCEs from both divisions = 250 + 150 + 1 = 401

NHCE Concentration Percentage = 2,775/(2,775 + 401) = 87.37%

Answer is E.

Question 34

The excise tax upon reversion of excess assets to an employer when a plan terminates is generally 20% of the amount of the reversion under IRC section 4980(a). However, unless the employer transfers at least 25% of the excess to a qualified replacement plan under IRC section 4980(d)(2) or provides benefit increases to the plan participants resulting in a reallocation of at least 20% of the excess under IRC section 4980(c)(3), the excise tax percentage is increased to 50%. In this question, the employer has adopted an amendment increasing benefits for participants in order to avoid the 50% excise tax. The minimum increase in benefits is 20%. That is what the amendment is assumed to have done (the question asks for the **minimum** increase in the lump sum for Jones).

The total lump sum value of the benefits prior to the plan amendment is:

$300,000 + 80,000 + 10,000 + 400,000 = $790,000

Excess assets = $1,300,000 – 790,000 = $510,000

The minimum increase in benefits by plan amendment needed to reduce the excise tax is:

$510,000 × 20% = $102,000

This is allocated proportionately to qualified participants (IRC section 4980(d)(3)).

	Lump sum prior to increase	Increase
Smith	$300,000	$38,734
Jones	80,000	10,329
Brown	10,000	1,291
Green	400,000	51,646
Total	790,000	102,000

IRC section 4980(d)(4)(A) requires that any increased allocation not exceed the requirements of IRC section 415. The increased allocations to Smith and Green exceed their maximum IRC section 415 lump sums. Smith must be limited to an increase of $25,000, and Green must be limited to an increase of $50,000. In addition, a participant who is not an active participant cannot receive an increased allocation of more than 40% of the total increase (IRC section 4980(d)(3)). So, Green's increase is limited under this IRC provision to $40,800 (40% × $102,000). The excess increase must be reallocated to the other participants.

Total excess = ($38,734 – 25,000) + ($51,646 – 40,800) = $24,580

	Lump sum prior to increase	Reallocation
Jones	$80,000	$21,849
Brown	10,000	2,731
Total	90,000	24,580

The total increase in the lump sum for Jones is $32,178 ($10,329 + 21,849).

Answer is D.

Question 35

IRC section 401(a)(26)(A) requires that a defined benefit plan must generally benefit at least the smaller of:

(1) 50 employees of the employer, or
(2) 40% of all employees of the employer

In determining the number of employees, the statutory exclusions allowed under IRC section 410(a)(1) can be used to reduce the employee count, to the extent that the specific plan being tested uses those exclusions (IRS regulation 1.401(a)(26)-6(b)(1)(i)). IRC section 410(a)(1)(B) allows up to a 2 year of service exclusion provided that the participants are always 100% vested. Although the question does not specifically state that the vesting schedule is 100% immediate, it must be assumed that is the case; otherwise, the plan would not satisfy the conditions of IRC section 410(a)(1)(B). Since Plan B is the plan being tested for 401(a)(26), the eligibility requirements of Plan A are irrelevant.

Employees at both Location A and Location B must be considered since they are all employees of the same employer. There are 60 employees at Location A and 40 employees at Location B who have at least 2 years of service. The minimum number of employees that must benefit in Plan B in order to satisfy the requirements of IRC section 401(a)(26) is:

$40\% \times (60 + 40) = 40$ employees

Answer is C.

Question 36

I. IRC section 4975(a) states that the excise tax imposed in the event of a prohibited transaction is paid from by the disqualified person who participates in the prohibited transaction (other than a fiduciary acting only as such). This is a direct quote from the Internal Revenue Code. The statement is **true**.

II. An investment in qualified employer securities is not considered a prohibited transaction under IRC section 4975(d)(3) if it is part of an employee stock ownership plan. The statement is **false**.

III. There are exemptions under IRC section 4975(d)(1) to the general prohibited transaction rules regarding a plan loan to a party-in-interest. The statement is **false**.

IV. The excise tax percentage is 15% under IRC section 4975(a). The statement is **false**.

Answer is A.

Question 37

The IRC section 415(b)(1)(B) compensation limit is 100% of the high consecutive three-year average salary, which is $50,000. This is reduced for years of service less than 10. Smith has 8 years of service as of 1/1/2007. Therefore, the compensation limit is:

$$8{,}000 \times 8/10 = 6{,}400$$

The IRC section 415(b)(1)(A) dollar limit for 2007 is $180,000. It must be reduced by 1/10 for each year of plan participation for Smith less than 10 years. Smith has only participated in the plan for 1 year. Therefore, the reduced dollar limit is:

$$180{,}000 \times 1/10 = 18{,}000$$

There is no age adjustment to the dollar limit since Smith is age 62 (there is no age adjustment for benefit commencement between age 62 and age 65).

Smith has never participated in a defined contribution of the employer, so Smith qualifies for the $10,000 annual de minimis IRC section 415 limit. This is reduced for years of service less than 10 in the same manner as the compensation limit. The de minimis IRC section 415 limit is:

$$10{,}000 \times 8/10 = 8{,}000$$

Considering statement I, the maximum annual benefit is equal to the smaller of the dollar limit or the compensation limit, but not less than the de minimis limit. The smaller of the dollar limit or the compensation limit is the 6,400 compensation limit, but the de minimis limit is larger than that at 8,000. So, the maximum annual benefit that can be paid to Smith as a single life annuity is 8,000. Statement I is a false statement.

Considering statement II, the maximum benefit under IRC section 415 does not need to be adjusted for benefit form provided it is paid either as a life annuity, or as a qualified joint and survivor annuity (the beneficiary is the participant's spouse, and the survivor percentage is not less than 50% and not more than 100%). Since the joint and survivor annuity would have a survivor percentage of 100%, payable to the spouse, there is no further reduction to the 8,000. Statement II is a true statement.

Considering statement III, the maximum benefit would be reduced if Smith participated in another defined benefit plan of the employer since benefits from all single employer plans of the same employer must be combined for purposes of the IRC section 415 limit. In addition, if Smith had participated in a defined contribution plan of the employer, then the de minimis limit would not be available, and Smith's maximum benefit would have been only 6,400. In either case, Smith's benefit would be reduced. Statement III is a true statement.

Answer is D.

Note: Although the answer key for this question available from the Joint Board for Enrollment of Actuaries web site indicates answer choice D is the correct answer, the answer key provided for this exam in the Society of Actuaries study note indicates that this question was not counted in the grading for the examination. The only flaw that I can see in this question is that in statement III, although benefits from another defined benefit plan of the same employer must be used to reduce the 415(b) limits, it is entirely possible that Smith was a participant but did not accrue any benefits in the other defined benefit plan, in which case there would be no impact on the benefit for Smith in the current plan in question.