

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

COURSE P-365U (EA2)  
JOINT BOARD BASIC EXAMINATION

This is the November 1991 examination which has been released to  
the public by the administering organizations.

FALL 1991

1991

Data for Question 1

Plan effective date: 7/1/86.

Plan year: 7/1 - 6/30.

Plan sponsor's taxable year: Calendar year.

Actuarial cost method: Attained age normal.

Assumed interest rate: 8%.

Credit balance in funding standard account as of 6/30/91: \$50,000.

Selected valuation results as of 7/1/91:

Normal cost as of 7/1	\$ 75,000
Unfunded liability	300,000

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

Question 1

In what range is the deductible limit for 1991?

- (A) Less than \$123,000
- (B) \$123,000 but less than \$126,000
- (C) \$126,000 but less than \$129,000
- (D) \$129,000 but less than \$132,000
- (E) \$132,000 or more

1991

Data for Question 2

Plan effective date: 1/1/91.

Actuarial cost method: Frozen initial liability.

Assumed interest rate: 7%.

Initial accrued liability: \$1,000,000.

Normal cost for 1991 as of 1/1/91: \$200,000.

Current liability as of 12/31/91: \$375,000.

Expected benefit payments for 1991: \$0.

Additional funding charge for 1991: \$0.

The contribution for 1991 was paid on 12/31/91 in an amount equal to the deductible limit for 1991.

There were 500 participants on each day in 1991.

Question 2

In what range is the credit balance in the funding standard account as of 12/31/91?

- (A) Less than \$25,000
- (B) \$25,000 but less than \$50,000
- (C) \$50,000 but less than \$75,000
- (D) \$75,000 but less than \$100,000
- (E) \$100,000 or more

1991

Data for Question 3

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

Profit-sharing plan provisions:

Effective date: 1/1/88.

Employer contribution: 15% of compensation.

Vesting: Full and immediate.

Data for participant Smith:

Date of hire 1/1/87

Date of retirement 1/1/92

Annual compensation:

1987 \$ 90,000

1988 100,000

1989 110,000

1990 130,000

1991 150,000

Benefits from the defined benefit plan will be reduced first if benefits and contributions would otherwise be more than permitted by IRC section 415.

Question 3

In what range is Smith's defined contribution fraction as of 12/31/91?

- (A) Less than 39%
- (B) 39% but less than 41%
- (C) 41% but less than 43%
- (D) 43% but less than 45%
- (E) 45% or more

1991

Data for Question 4

Plan effective date: 1/1/80.

Actuarial cost method: Aggregate.

Assumed interest rate: 8%.

Credit balance in funding standard account as of 12/31/90: \$0.

Selected valuation results as of 1/1/91:

Normal cost as of 1/1	\$ 50,000
Actuarial value of assets	1,150,000
Current liability	1,750,000
Deficit reduction contribution as of 12/31	71,875
Number of participants:	
Active	80
Terminated vested	15
Retired	30
Total	125

The number of participants ranged from 110 to 135 during 1990.

Question 4

In what range is the minimum required contribution for 1991 payable 12/31/91?

- (A) Less than \$65,000
- (B) \$65,000 but less than \$85,000
- (C) \$85,000 but less than \$105,000
- (D) \$105,000 but less than \$125,000
- (E) \$125,000 or more

Data for Question 5

1991

As of 1/1/92, Plan A splits into Plans B and C.

Market value of assets as of 12/31/91: \$100,000.

Credit balance in funding standard account as of 12/31/91: \$10,000.

Present value of accrued benefits on a termination basis as of 1/1/92:

ERISA Section 4044

Priority Category

	<u>Plan A</u>	<u>Plan B</u>	<u>Plan C</u>
1	\$ 0	\$ 0	\$ 0
2	5,000	1,000	4,000
3	25,000	0	25,000
4	60,000	11,000	49,000
5	8,000	3,500	4,500
6	20,000	2,000	18,000
Total	118,000	17,500	100,500

Question 5

In what range is the market value of assets allocated to Plan B as of 1/1/92?

- (A) Less than \$14,800
- (B) \$14,800 but less than \$15,200
- (C) \$15,200 but less than \$15,600
- (D) \$15,600 but less than \$16,000
- (E) \$16,000 or more

1991

Data for Question 6

Plan effective date: 1/1/90.

Normal retirement benefit:

Effective 1/1/90: \$30 per month for each year of service.

Effective 1/1/91: \$40 per month for each year of service.

Actuarial cost method: Unit credit.

Assumed interest rate: 8%.

Selected valuation results:

	1/1/90 <u>(\$30)</u>	1/1/91 <u>(\$40)</u>
Normal cost as of 1/1	\$ 35,000	\$ 41,000
Accrued liability	200,000	280,000

Contribution for 1990: \$65,000 paid on 12/31/90.

There are no retired or terminated vested participants.

Question 6

In what range is the minimum required contribution for 1991 payable 12/31/91?

- (A) Less than \$49,000
- (B) \$49,000 but less than \$53,000
- (C) \$53,000 but less than \$57,000
- (D) \$57,000 but less than \$61,000
- (E) \$61,000 or more

1991

Data for Question 7

Plan effective date: 1/1/87.

Actuarial cost method: Entry age normal.

Assumed interest rate: 8%.

Funding deficiency in funding standard account as of 12/31/90: \$11,000.

Balance in accumulated reconciliation account as of 12/31/90: \$1,000.

Selected valuation results as of 1/1/91:

Normal cost as of 1/1	\$18,000
Accrued liability	80,000
Actuarial value of assets	60,000

Additional interest charge due to late quarterly contributions for 1991: \$307.

There have been no experience gains or losses.

No required quarterly contributions for 1991 were paid in 1991.

The minimum required contribution for 1991 is paid on 12/31/91.

Question 7

In what range is the minimum required contribution for 1991 paid on 12/31/91?

- (A) Less than \$32,400
- (B) \$32,400 but less than \$32,500
- (C) \$32,500 but less than \$32,600
- (D) \$32,600 but less than \$32,700
- (E) \$32,700 or more



1991

Data for Question 8

Plan effective date: 1/1/86.

Normal retirement benefit: \$120 per month for each year of participation.

Data for participant Smith:

Date of birth	1/1/29
Date of hire	1/1/86
Date of participation	1/1/87
Annual compensation:	
1986	\$ 8,000
1987	11,000
1988	9,000
1989	9,000
1990	9,000

Question 8

In what range is Smith's annual accrued benefit as of 1/1/91?

- (A) Less than \$4,000
- (B) \$4,000 but less than \$4,450
- (C) \$4,450 but less than \$4,900
- (D) \$4,900 but less than \$5,350
- (E) \$5,350 or more

1991

Data for Question 9

Type of plan: Multiemployer.

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

Assumed interest rate: 8%.

History of contributions:

<u>Year</u>	<u>Contributions by All Employers</u>	<u>Contributions by Employer A</u>
1986	\$400,000	\$9,000
1987	500,000	8,000
1988	600,000	7,000
1989	700,000	6,000
1990	800,000	4,000
1991	900,000	2,000

Unfunded present value of vested benefits as of 12/31/90: \$11,500,000.

Unfunded present value of vested benefits as of 12/31/91: \$10,500,000.

Employer A withdrew from the plan in 1991. No other employers have withdrawn from the plan.

Question 9

In what range is Employer A's withdrawal liability?

- (A) Less than \$70,000
- (B) \$70,000 but less than \$85,000
- (C) \$85,000 but less than \$100,000
- (D) \$100,000 but less than \$115,000
- (E) \$115,000 or more

1991

Data for Question 10

Plan effective date: 1/1/85.

Actuarial cost method: Frozen initial liability.

Assumed interest rate:

Before 1991: 7%.

After 1990: 8%.

Credit balance in funding standard account as of 12/31/90: \$20,000.

Balance in accumulated reconciliation account as of 12/31/90: \$3,000.

Selected valuation results as of 1/1/91:

	<u>7%</u>	<u>8%</u>
Normal cost as of 1/1	\$ 30,000	\$ 25,000
Unfunded liability	325,000	225,000

Contribution for 1991: \$40,000 paid on 4/1/91.

Question 10

In what range is the credit balance in the funding standard account as of 12/31/91?

- (A) Less than \$18,700
- (B) \$18,700 but less than \$19,000
- (C) \$19,000 but less than \$19,300
- (D) \$19,300 but less than \$19,600
- (E) \$19,600 or more

Data for Question 11

Consider the following statements regarding PBGC Form 1 and the corresponding premium for 1991:

- I. The variable rate portion of the premium is reduced to \$0 if, for 1986 through 1990, the plan sponsor contributed to the plan an amount equal to the deductible limit for each such year.
- II. It is not always necessary for an enrolled actuary to sign the Schedule A attachment.
- III. Insured plans subject to IRC section 412(i) are exempt from paying the variable rate portion of the premium.
- IV. Plans at the full funding limitation for which no additional deductible contributions could have been made for the year preceding the premium payment year are exempt from paying the variable rate portion of the premium.

Question 11

Which, if any, of these statements is (are) true?

- (A) All but I
- (B) All but II
- (C) All but III
- (D) All but IV
- (E) The correct answer is not given by (A), (B), (C), or (D) above.

1991

Data for Question 12

Actuarial cost method: Frozen initial liability.

Valuation interest rate: 8%.

Current liability interest rate: 9%.

Selected valuation results and funding standard account items as of 1/1/91:

Current liability	\$2,000,000
Actuarial value of assets	1,500,000
Market value of assets	1,600,000
Credit balance	80,000
Amortization charge for initial accrued liability	35,000
Outstanding balance of unfunded old liability	300,000
Unfunded old liability amount	33,110
Applicable percentage for determining unfunded new liability amount	21%

There were 200 participants on each day in 1990.

There are no unpredictable contingent events.

Question 12

In what range is the additional funding charge for 1991 as of 12/31/91?

- (A) Less than \$38,000
- (B) \$38,000 but less than \$46,000
- (C) \$46,000 but less than \$54,000
- (D) \$54,000 but less than \$62,000
- (E) \$62,000 or more

1991

Data for Question 13

Plan effective date: 1/1/90.

Actuarial cost method: Projected unit credit.

Assumed interest rate: 8%.

Selected valuation results:

	<u>1/1/90</u>	<u>1/1/91</u>
Normal cost as of 1/1	\$ 70,000	\$ 65,000
Accrued liability	400,000	420,000

The contribution for 1990 was paid on 12/31/90 in an amount equal to the deductible limit for 1990.

Question 13

In what range is the minimum required contribution for 1991 payable 12/31/91?

- (A) Less than \$57,000
- (B) \$57,000 but less than \$59,000
- (C) \$59,000 but less than \$61,000
- (D) \$61,000 but less than \$63,000
- (E) \$63,000 or more

1991

Data for Question 14

Plan effective date: 1/1/86.

Actuarial cost method:

Before 1991: Entry age normal.

After 1990: Aggregate.

Assumed interest rate: 8%.

Initial accrued liability: \$350,000.

Selected valuation results as of 1/1/91:

Present value of future benefits	\$ 600,000
Actuarial (market) value of assets	125,000
Present value of future compensation	5,000,000
Annual compensation	500,000
Normal cost under entry age normal method as of 1/1	30,000
Accrued liability under entry age normal method	425,000

There have been no experience gains or losses other than an experience loss of \$10,000 during 1990.

Question 14

In what range is the minimum required contribution for 1991 payable 12/31/91?

- (A) Less than \$10,000
- (B) \$10,000 but less than \$14,000
- (C) \$14,000 but less than \$18,000
- (D) \$18,000 but less than \$22,000
- (E) \$22,000 or more

1991

Data for Question 15

Plan effective date: 1/1/78.

Plan termination date: 10/1/91.

Actuarial cost method: Frozen initial liability.

Assumed interest rate: 8%.

Credit balance in funding standard account as of 12/31/90: \$15,000.

Selected valuation results (without regard to plan termination) as of 1/1/91:

Normal cost as of 1/1	\$ 25,000
Unfunded liability	450,000

Contribution for 1991: \$10,000 paid on 7/1/91.

Question 15

In what range is the amount of the initial excise tax for failure to meet minimum funding standards for 1991?

- (A) Less than \$2,250
- (B) \$2,250 but less than \$2,700
- (C) \$2,700 but less than \$3,150
- (D) \$3,150 but less than \$3,600
- (E) \$3,600 or more



Data for Question 16

Type of plan: Contributory.

Plan termination date: 12/31/90.

Date of distribution of assets: 12/31/91.

The plan provides for a reversion of residual assets to the plan sponsor upon plan termination.

Smith, Brown, and Green are the only participants ever covered under the plan. Smith received a full distribution of benefits on 12/31/89.

Market value of assets as of 12/31/91: \$200,000.

Present value of accrued benefits on a termination basis:

<u>ERISA Section 4044 Priority Category</u>	<u>As of 12/31/89</u>	<u>As of 12/31/91</u>	
	<u>Smith</u>	<u>Brown</u>	<u>Green</u>
1	\$ 2,000	\$ 5,000	\$ 0
2	10,000	12,000	15,000
3-6	<u>15,000</u>	<u>60,000</u>	<u>50,000</u>
Total	27,000	77,000	65,000

Brown and Green each will receive a lump sum distribution equal to the present value of his total benefit on a termination basis.

The portion of residual assets attributable to employee contributions is determined under ERISA Section 4044.

Question 16

In what range is Brown's share of residual assets?

- (A) Less than \$3,800
- (B) \$3,800 but less than \$4,200
- (C) \$4,200 but less than \$4,600
- (D) \$4,600 but less than \$5,000
- (E) \$5,000 or more

1991

Data for Question 17

Plan effective date: 1/1/89.

Actuarial cost method: Attained age normal.

Assumed interest rate: 8%.

Initial accrued liability: \$400,000.

Credit balance in funding standard account as of 12/31/89: \$0.

Normal cost for 1990 as of 1/1/90: \$45,000.

Contribution for 1990: \$0.

Normal cost for 1991 as of 1/1/91: \$35,000.

The minimum funding requirement for 1990 was waived.

150% of mid-term applicable federal rate for January, 1991: 12.30%.

Question 17

In what range is the minimum required contribution for 1991 payable 12/31/91?

- (A) Less than \$81,000
- (B) \$81,000 but less than \$86,000
- (C) \$86,000 but less than \$91,000
- (D) \$91,000 but less than \$96,000
- (E) \$96,000 or more

1991

Data for Question 18

Actuarial cost method: Frozen initial liability.

Valuation interest rate: 8%.

Current liability interest rate: 9%.

Credit balance in funding standard account as of 12/31/90: \$15,000.

Selected valuation results as of 1/1/91:

Normal cost as of 1/1	\$ 40,000
Amortization payment for purposes of IRC section 404 as of 1/1	20,000
Actuarial value of assets	400,000
Market value of assets	410,000
Normal cost under entry age normal method as of 1/1	35,000
Accrued liability under entry age normal method	430,000

Current liability as of 12/31/91: \$327,000.

Expected benefit payments for 1991: \$0.

Question 18

In what range is the deductible limit for 1991?

- (A) Less than \$50,000
- (B) \$50,000 but less than \$55,000
- (C) \$55,000 but less than \$60,000
- (D) \$60,000 but less than \$65,000
- (E) \$65,000 or more

Data for Question 19

1991

Type of plan: Multiemployer.

History of contribution base units for Employer A:

1980	180,000
1981	150,000
1982	140,000
1983	120,000
1984	100,000
1985	52,000
1986	45,000
1987	38,000
1988	35,000
1989	28,000
1990	25,000
1991	22,000

Question 19

In what year did Employer A experience a partial withdrawal due to a 70% decline in contribution base units?

- (A) 1987 or earlier
- (B) 1988
- (C) 1989
- (D) 1990
- (E) 1991

1991

Data for Question 20

Plan effective date: 1/1/87.

Normal retirement age: 62.

Normal retirement benefit: 50% of final year's compensation.

Preretirement death benefit: Present value of accrued benefit.

Interest rate specified in plan for actuarial equivalence: 7%.

Actuarial cost method: Aggregate.

Assumed compensation increases: 4% per year.

Assumed retirement age: 62.

Data for participant Smith:

Date of birth	1/1/52
Date of hire	1/1/70
1990 compensation	\$75,000

Defined benefit dollar limitation under IRC section 415 for 1991: \$108,963.

Selected commutation functions and annuity values:

Age x	5%		7%	
	$D_x$	$\ddot{a}_x^{(12)}$	$D_x$	$\ddot{a}_x^{(12)}$
62	414	10.9	128	9.4
65	339	9.9	99	8.7
66	316	9.6	91	8.4
67	294	9.3	83	8.2

Question 20

In what range is Smith's projected annual retirement benefit for funding purposes for 1991?

- (A) Less than \$80,000
- (B) \$80,000 but less than \$82,000
- (C) \$82,000 but less than \$84,000
- (D) \$84,000 but less than \$86,000
- (E) \$86,000 or more

1991

Data for Question 21

Plan A effective date: 1/1/81.

As of 1/1/91, Plan A is split into Plans B and C using the de minimis rule of IRS Regulation 1.414(1)-1, with no split of the funding standard account. The sponsors of Plans B and C are not members of the same controlled group of corporations.

Actuarial cost method: Entry age normal.

Assumed interest rate: 8%.

Credit balance in funding standard account as of 12/31/90: \$100,000.

Selected valuation results as of 1/1/91:

	<u>Plan A</u>	<u>Plan B</u>	<u>Plan C</u>
Normal cost as of 1/1	\$ 125,000	\$ 120,000	\$ 5,000
Accrued liability	1,900,000	1,840,000	60,000
Present value of accrued benefits on a termination basis	1,350,000	1,325,000	25,000
Actuarial (market) value of assets	1,500,000	1,475,000	25,000

There have been no experience gains or losses.

Question 21

In what range is the minimum required contribution for Plan B for 1991 payable 12/31/91?

- (A) Less than \$54,000
- (B) \$54,000 but less than \$60,000
- (C) \$60,000 but less than \$66,000
- (D) \$66,000 but less than \$72,000
- (E) \$72,000 or more

1991

Data for Question 22

Plan effective date: 1/1/84.

Normal retirement benefit: 4% of final 3-year average compensation for each year of service up to 15 years plus 2% of final 3-year average compensation for each year of service in excess of 15 years but not in excess of 30 years.

Actuarial cost method: Projected unit credit.

Actuarial assumptions:

Interest rate: 8%.

Preretirement deaths and terminations: None.

Retirement age: 65.

Data and selected valuation result for sole participant as of 1/1/91:

Date of birth	1/1/39
Date of hire	1/1/79
Projected 3-year average compensation at age 65	\$155,000

Defined benefit dollar limitation under IRC section 415 for 1991: \$108,963.

Selected annuity value on the valuation basis:

$$\ddot{a}_{65}^{(12)} = 10$$

Question 22

In what range is the accrued liability as of 1/1/91?

- (A) Less than \$250,000
- (B) \$250,000 but less than \$260,000
- (C) \$260,000 but less than \$270,000
- (D) \$270,000 but less than \$280,000
- (E) \$280,000 or more

1991

Data for Question 23

As of 1/1/91, Plan A is split into Plans B and C.

Actuarial cost method: Frozen initial liability.

Selected valuation results and funding standard account items as of 1/1/91:

	<u>Plan A</u>	<u>Plan B</u>	<u>Plan C</u>
Actuarial value of assets	\$150,000		
Market value of assets	125,000	\$ 75,000	\$ 50,000
Accrued liability under entry age normal method	300,000	125,000	175,000
Credit balance	30,000	13,000	17,000
Outstanding balance of the amortization base	290,000		

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

Question 23

In what range is the outstanding balance of the amortization base allocated to Plan B as of 1/1/91?

- (A) Less than \$91,000
- (B) \$91,000 but less than \$94,000
- (C) \$94,000 but less than \$97,000
- (D) \$97,000 but less than \$100,000
- (E) \$100,000 or more



1991

Data for Question 24

Plan effective date: 1/1/88.

Actuarial cost method: Frozen initial liability.

Assumed interest rate: 8%.

Selected valuation results and funding standard account items as of 1/1/91:

Normal cost as of 1/1	\$ 7,500
Actuarial (market) value of assets	100,000
Normal cost under entry age normal method as of 1/1	7,000
Accrued liability under entry age normal method	105,000
Credit balance	3,500
Amortization charge as of 1/1	5,000

The contribution for 1991 was paid on 12/31/91 in an amount equal to the deductible limit for 1991.

Question 24

In what range is the credit balance in the funding standard account as of 12/31/91?

- (A) Less than \$3,000
- (B) \$3,000 but less than \$3,500
- (C) \$3,500 but less than \$4,000
- (D) \$4,000 but less than \$4,500
- (E) \$4,500 or more

1991

Data for Question 25

Plan effective date: 1/1/75.

Normal retirement age: 55.

Normal or postponed retirement benefit: 50% of final 3-year average compensation.

Preretirement death benefit: None.

Data for participant Smith:

Date of birth	1/1/31
Date of hire	1/1/81
Date of retirement	1/1/91
Annual compensation:	
1988	\$200,000
1989	200,000
1990	200,000

Defined benefit dollar limitation under IRC section 415 for 1991: \$108,963.

Selected commutation functions for purposes of IRC section 415:

$$N_{55}^{(12)} = 2,000 \quad N_{60}^{(12)} = 1,400 \quad N_{62}^{(12)} = 1,100 \quad N_{65}^{(12)} = 800$$

Question 25

In what range is the maximum annual benefit payable to Smith in 1991?

- (A) Less than \$54,000
- (B) \$54,000 but less than \$60,000
- (C) \$60,000 but less than \$66,000
- (D) \$66,000 but less than \$72,000
- (E) \$72,000 or more

1991

Data for Question 26

Plan effective date: 1/1/87.

Actuarial cost method:

Before 1991: Entry age normal.

After 1990: Frozen initial liability.

Assumed interest rate: 8%.

Initial accrued liability: \$800,000.

Full funding credit for 1990 due entirely to 150% of current liability limitation: \$50,000.

Selected valuation results as of 1/1/91:

Present value of future benefits	\$2,200,000
Actuarial value of assets	363,000
Present value of future normal costs	1,100,000
Present value of future compensation	3,000,000
Annual compensation	300,000

There have been no experience gains or losses other than an experience gain of \$60,000 in 1989.

Question 26

In what range is the minimum required contribution for 1991 payable 12/31/91?

- (A) Less than \$140,000
- (B) \$140,000 but less than \$150,000
- (C) \$150,000 but less than \$160,000
- (D) \$160,000 but less than \$170,000
- (E) \$170,000 or more

Data for Question 27

Plan effective date: 1/1/80.

Unfunded present value of vested benefits as of 12/31/90: \$600,000.

Number of participants as of 12/31/90: 90.

The only years for which the plan sponsor paid contributions equal to the deductible limit were for 1987, 1988, and 1989.

Question 27

In what range is the total PBGC premium per participant for 1991?

- (A) Less than \$64
- (B) \$64 but less than \$68
- (C) \$68 but less than \$72
- (D) \$72 but less than \$76
- (E) \$76 or more

1991

Data for Question 28

Defined benefit plan effective date: 1/1/91.

Actuarial cost method: Frozen initial liability.

Assumed interest rate: 8%.

Initial accrued liability as of 12/31/91: \$1,800,000.

Normal cost for 1991 as of 12/31/91: \$300,000.

Contribution to target benefit plan for 1991: \$200,000 paid on 12/31/91.

Contribution to defined benefit plan for 1991: \$548,000 paid on 12/31/91.

Total compensation paid to employees for 1991: \$1,700,000.

All employees are participants in both plans.

Question 28

In what range is the plan sponsor's excise tax for nondeductible contributions for 1991?

- (A) Less than \$20,000
- (B) \$20,000 but less than \$24,000
- (C) \$24,000 but less than \$28,000
- (D) \$28,000 but less than \$32,000
- (E) \$32,000 or more

1991

Data for Question 29

Valuation interest rate: 8%.

175% of mid-term applicable federal rate for January, 1991: 14.42%.

Required quarterly contributions for 1991: \$5,000 per quarter.

Contributions for 1991: \$10,000 paid on 7/15/91 and \$10,000 paid on 4/15/92.

Question 29

In what range is the additional interest charge due to the late payment of required quarterly contributions for 1991?

- (A) Less than \$400
- (B) \$400 but less than \$450
- (C) \$450 but less than \$500
- (D) \$500 but less than \$550
- (E) \$550 or more

1991

Data for Question 30

Actuarial cost method: Individual level premium.

Actuarial assumptions:

Valuation interest rate: 8%.  
Current liability interest rate: 9%.  
Compensation increases: None.  
Preretirement deaths and terminations: None.  
Retirement age: 65.

ate of birth for sole participant: 1/1/40.

Credit balance in funding standard account as of 12/31/90: \$0.

Selected valuation results as of 1/1/91:

Present value of future benefits	\$600,000
Accrued liability	210,000
Actuarial (market) value of assets	225,000

Current liability as of 12/31/91: \$185,000.

There are no unamortized bases as of 1/1/91.

Question 30

In what range is the deductible limit for 1991?

- (A) Less than \$30,000
- (B) \$30,000 but less than \$32,000
- (C) \$32,000 but less than \$34,000
- (D) \$34,000 but less than \$36,000
- (E) \$36,000 or more

1991

Data for Question 31

Plan effective date: 1/1/88.

Actuarial cost method:

Before 1991: Unit credit.

After 1990: Entry age normal.

Assumed interest rate: 8%.

Credit balance in funding standard account as of 12/31/90: \$10,000.

Unfunded accrued liability under entry age normal method  
as of 1/1/91: \$470,000.

Selected amortization charges in funding standard account as of 1/1/91:

Due to initial accrued liability	\$30,000
Due to increase in accrued liability attributable to 1/1/90 plan amendment	5,000

There have been no experience gains or losses other than an experience loss of \$20,000 during 1989.

Question 31

In what range is the amortization charge in the funding standard account as of 1/1/91 resulting from the change in actuarial cost method?

- (A) Less than \$4,100
- (B) \$4,100 but less than \$4,300
- (C) \$4,300 but less than \$4,500
- (D) \$4,500 but less than \$4,700
- (E) \$4,700 or more



1991

Data for Question 32

Plan effective date: 1/1/85.

Plan year: Calendar year.

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

Actuarial cost method: Aggregate.

Assumed interest rate: 8%.

Credit balance in funding standard account as of 12/31/90: \$100,000.

Selected valuation results as of 1/1/91:

Present value of future benefits	\$4,000,000
Actuarial value of assets	800,000
Present value of future compensation	2,750,000
Annual compensation	250,000

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

The contribution for the 1990 plan year was paid on 1/1/90.

\$60,000 of the contribution for the 1991 plan year was paid on 6/15/91 and deducted for the taxable year ending 9/30/90.

Question 32

In what range is the deductible limit for the taxable year ending 9/30/91?

- (A) Less than \$284,000
- (B) \$284,000 but less than \$292,000
- (C) \$292,000 but less than \$300,000
- (D) \$300,000 but less than \$308,000
- (E) \$308,000 or more

1991

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ANSWER KEY

- |       |       |
|-------|-------|
| 1. D  | 16. C |
| 2. D  | 17. E |
| 3. C  | 18. C |
| 4. C  | 19. C |
| 5. D  | 20. B |
| 6. A  | 21. C |
| 7. C  | 22. C |
| 8. D  | 23. B |
| 9. D  | 24. B |
| 10. B | 25. D |
| 11. A | 26. B |
| 12. E | 27. C |
| 13. B | 28. D |
| 14. B | 29. D |
| 15. D | 30. B |
|       | 31. B |
|       | 32. D |