

SOCIETY OF ACTUARIES

AMERICAN SOCIETY OF PENSION ACTUARIES

JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES

**ENROLLED ACTUARIES PENSION EXAMINATION, SEGMENT B**

**MAY 2010 EA-2, SEGMENT B, EXAMINATION**

THIS PAGE WAS INTENTIONALLY LEFT BLANK

**LIMITS, TABLES AND FORMULAS**  
(Included with the 2010 EA-2 (Segment B) examination)

<b>Compensation Limit IRC section 401(a)(17)</b>	
<u>Year</u>	<u>Limit</u>
1989	200,000
1990	209,200
1991	222,220
1992	228,860
1993	235,840
1994-1996	150,000
1997-1999	160,000
2000-2001	170,000
2002-2003	200,000
2004	205,000
2005	210,000
2006	220,000
2007	225,000
2008	230,000
2009-2010	245,000

<b>Maximum Benefit Limit IRC section 415(b)</b>	
<u>Year</u>	<u>Limit at SSRA</u>
1983-1987	90,000
1988	94,023
1989	98,064
1990	102,582
1991	108,963
1992	112,221
1993	115,641
1994	118,800
1995-1996	120,000
1997	125,000
1998-1999	130,000
2000	135,000
2001	140,000
<u>Year</u>	<u>Limit at 65</u>
2002-2003	160,000
2004	165,000
2005	170,000
2006	175,000
2007	180,000
2008	185,000
2009-2010	195,000

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

**LIMITS, TABLES AND FORMULAS**  
**(Included with the 2010 EA-2 (Segment B) examination)**

<b>Permitted Disparity Tables IRC section 401(l)</b>				
Annual factor in maximum excess allowance and maximum offset allowance percent				
Age at benefit Commencement	SSRA 65	SSRA 66	SSRA 67	Simplified Table
70	1.209	1.101	1.002	1.048
69	1.096	0.998	0.908	0.950
68	0.996	0.907	0.825	0.863
67	0.905	0.824	0.750	0.784
66	0.824	0.750	0.700	0.714
65	0.750	0.700	0.650	0.650
64	0.700	0.650	0.600	0.607
63	0.650	0.600	0.550	0.563
62	0.600	0.550	0.500	0.520
61	0.550	0.500	0.475	0.477
60	0.500	0.475	0.450	0.433
59	0.475	0.450	0.425	0.412
58	0.450	0.425	0.400	0.390
57	0.425	0.400	0.375	0.368
56	0.400	0.375	0.344	0.347
55	0.375	0.344	0.316	0.325

<b>FICA Taxable Wage Base</b>	
<u>Year</u>	<u>Limit</u>
1992	55,500
1993	57,600
1994	60,600
1995	61,200
1996	62,700
1997	65,400
1998	68,400
1999	72,600
2000	76,200
2001	80,400
2002	84,900
2003	87,000
2004	87,900
2005	90,000
2006	94,200
2007	97,500
2008	102,000
2009-2010	106,800

<b>Key Employee Compensation IRC section 416</b>		
<u>Year</u>	<u>Officer</u>	<u>1% owner</u>
2003	130,000	150,000
2004	130,000	150,000
2005	135,000	150,000
2006	140,000	150,000
2007	145,000	150,000
2008	150,000	150,000
2009-2010	160,000	150,000

<b>Highly Compensated Employee Compensation IRC section 414(q)</b>	
<u>Year</u>	<u>Limit</u>
1997-1999	80,000
2000-2001	85,000
2002-2004	90,000
2005	95,000
2006	100,000
2007	100,000
2008	105,000
2009-2010	110,000

**LIMITS, TABLES AND FORMULAS**  
(Included with the 2010 EA-2 (Segment B) examination)

<b>Maximum PBGC Guaranteed Life-Only Annuity at Age 65</b>	
<u>Year</u>	<u>Monthly Benefit</u>
1999	3,051.14
2000	3,221.59
2001	3,392.05
2002	3,579.55
2003	3,664.77
2004	3,698.86
2005	3,801.14
2006	3,971.59
2007	4,125.00
2008	4,312.50
2009-2010	4,500.00

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

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

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

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

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

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

THIS PAGE WAS INTENTIONALLY LEFT BLANK

Data for Question 1 (1 point)

The collective bargaining agent for a union covered in a multiemployer defined benefit plan sends an email to the actuary who signed the 2009 Schedule MB requesting information regarding the assumptions reported on the Schedule MB.

Consider the following statement:

The actuary must comply with this request.

Question 1

Is the above statement true or false?

(A) True

(B) False

2010

Data for Question 2 (1 point)

In conjunction with a withdrawal from a multiemployer defined benefit plan, an alternative allocation method is suggested to the PBGC for allocating unfunded vested benefits.

Consider the following statement:

The PBGC can approve this alternative method.

Question 2

Is the above statement true or false?

(A) True

(B) False



2010

Data for Question 3 (2 points)

A defined benefit plan terminates on 12/31/2010. The plan covers only active participants.

Prior to any amendments, plan assets are 150% of liabilities measured on a termination basis.

Upon termination the employer adopts an amendment to increase all benefits by 15% effective as of the date of termination.

The plan sponsor does not establish a new qualified plan.

Consider the following statement:

Any reversion to the plan sponsor on account of the plan termination will be subject to a 20% excise tax.

Question 3

Is the above statement true or false?

(A) True

(B) False

2010

Data for Question 4 (1 point)

Consider the following statement for a collectively bargained plan that has 1,000 or more participants:

The Annual Funding Notice has to be furnished only to plan participants, beneficiaries, and the PBGC.

Question 4

Is the above statement true or false?

- (A) True
- (B) False

2010

Data for Question 5 (1 point)

Consider the following statement:

A lump sum payment representing the return of mandatory employee contributions is exempt from IRC section 436 benefit restrictions.

Question 5

Is the above statement true or false?

- (A) True
- (B) False

2010

Data for Question 6 (1 point)

Normal retirement benefit: \$1,000 per month reduced proportionally for less than 30 years of service at normal retirement age.

Plan entry date: Later of age 21 and one year of service.

Accrual method: Fractional based on years of participation service.

Consider the following statement:

The plan benefit formula meets the nondiscrimination safe harbor requirements for plans using the fractional accrual rule.

Question 6

Is the above statement true or false?

(A) True

(B) False

Data for Question 7 (1 point)

Vesting schedule:

<u>Years of service</u>	<u>Vested percentage</u>
1	0%
2	20%
3	40%
4	60%
5	80%
6	100%

Consider the following statement:

The above vesting schedule satisfies the vesting requirements for an “applicable defined benefit plan” under IRC section 411(a)(13)(C).

Question 7

Is the above statement true or false?

- (A) True
- (B) False

2010

Data for Question 8 (1 point)

Two multiemployer plans merge.

The new combined multiemployer plan is underfunded.

Consider the following statement:

PBGC Form 10 must be filed for a reportable event.

Question 8

Is the above statement true or false?

(A) True

(B) False

2010

Data for Question 9 (1 point)

A defined benefit plan covers 175 participants.

An amendment is adopted to freeze benefit accruals effective 12/31/2010.

Consider the following statement:

The plan sponsor must notify participants about the cessation of benefit accruals no later than 12/16/2010.

Question 9

Is the above statement true or false?

(A) True

(B) False

2010

Data for Question 10 (1 point)

A company has had more than 1,000 employees since its inception in 1970. The company has data that shows that over the company's history, the average retirement age for its employees is 58, which is significantly lower than that of the industry as a whole.

Consider the following statement:

Based on the company's history, the plan may use 58 as the normal retirement age.

Question 10

Is the above statement true or false?

(A) True

(B) False



2010

Data for Question 11 (1 point)

A participant terminated employment on January 1, 2010 and was not eligible for either normal or early retirement on that date. Under the terms of the plan, the participant is entitled to an immediate lump sum distribution of \$10,000. The plan is not subject to benefit restrictions under IRC section 436.

Consider the following statement:

The plan must offer the participant an immediate annuity form of payment in addition to the lump sum distribution option.

Question 11

Is the above statement true or false?

(A) True

(B) False

2010

Data for Question 12 (1 point)

Plan A is proceeding with a standard termination.

Five participants, each of whom has vested benefits exceeding \$5,000, have changed home addresses, but left no forwarding address.

After a diligent search, the plan administrator is unable to locate any of them.

Consider the following statement:

The company will be allowed to set aside money for the missing participants in an irrevocable trust.

Question 12

Is the above statement true or false?

(A) True

(B) False

2010

Data for Question 13 (1 point)

A plan sponsor has filed for bankruptcy under Chapter 11 on 7/1/2010. The plan terminates in a distress termination while the sponsor is in bankruptcy.

Consider the following statement:

The PBGC termination premium applies to this plan.

Question 13

Is the above statement true or false?

(A) True

(B) False

2010

Data for Question 14 (1 point)

Consider the following statement for a plan that has 1,000 or more participants:

On the Annual Funding Notice, the fair market value of assets as of the end of the plan year may include contributions receivable, as long as those contributions are made before the date the notice is timely furnished.

Question 14

Is the above statement true or false?

- (A) True
- (B) False

# 2010

## Data for Question 15 (2 points)

A defined benefit plan was effective on 1/1/1990. The plan offers a lump sum option to terminated participants. The plan has never been amended to freeze benefit accruals.

Data concerning AFTAPs:

	<u>AFTAP</u>	<u>Date AFTAP certified</u>
2007 AFTAP	100%	2/1/2008
2008 AFTAP	95%	7/1/2008
2009 AFTAP	85%	7/1/2009
2010 AFTAP	77%	7/1/2010
2011 AFTAP	58%	7/1/2011

Participant Smith, who has always been an NHCE, is entitled to a lump sum distribution of his total accrued benefit in excess of \$100,000.

Consider the following statement:

The first date after 12/31/2007 on which participant Smith could not be paid a full lump sum is 7/1/2010.

## Question 15

Is the above statement true or false?

- (A) True
- (B) False

2010

Data for Question 16 (1 point)

An employer adopts a money purchase plan with the following allocation formula: 5% of pay prior to age 64, 3% thereafter.

Consider the following statement:

This allocation formula does not meet the qualification requirements under the Internal Revenue Code.

Question 16

Is the above statement true or false?

(A) True

(B) False

2010

Data for Question 17 (1 point)

An employer who is a member of a controlled group maintains a plan with a 2010 FTAP less than 80%.

The aggregate ERISA section 4010 funding shortfall for plans in the controlled group is \$12 million.

All required contributions have been paid in a timely manner.

No member of the controlled group has ever applied for or received a funding waiver.

Consider the following statement:

ERISA section 4010 reporting is waived for members of the controlled group for the 2010 plan year.

Question 17

Is the above statement true or false?

(A) True

(B) False

2010

Data for Question 18 (1 point)

Type of plan: Multiemployer.

1/1/2010 funded percentage under IRC section 432: 75%.

Year of first projected funding deficiency recognizing the plan's IRC section 431(d) amortization extensions: 2019.

Year of first projected funded deficiency ignoring the plan's IRC section 431(d) amortization extensions: 2013.

Consider the following statement:

This plan is in endangered status for the 2010 plan year.

Question 18

Is the above statement true or false?

(A) True

(B) False



2010

Data for Question 19 (1 point)

Selected plan data:

<u>Determination date</u>	<u>Number of active participants</u>
1/1/2009	1,000
1/1/2010	801
7/1/2010	720
12/31/2010	850

Assume no reporting waivers apply.

Consider the following statement:

A reportable event as defined in section 4043 of the PBGC regulations occurred during the 2010 event year.

Question 19

Is the above statement true or false?

(A) True

(B) False

2010

Data for Question 20 (1 point)

Company ABC maintains a defined benefit pension plan. Non-owner Smith's sole duties with regard to the pension plan are to gather service and compensation data for benefit calculation purposes, prepare communications to participants, and prepare the annual Form 5500 filing.

Consider the following statement:

Smith is a plan fiduciary.

Question 20

Is the above statement true or false?

(A) True

(B) False

# 2010

## Data for Question 21 (2 points)

Employer X sponsors Plan A. Plan A met the requirements of IRC section 410(b) for the 2007 plan year.

Employer Y sponsors Plan B. Plan B met the requirements of IRC section 410(b) for the 2007 plan year.

Both employers properly relied upon the results of their respective 2007 nondiscrimination tests to substantiate compliance with nondiscrimination testing requirements for 2009.

Employer X acquired Employer Y in 2009.

No changes were made to the pension plans or to the employee population before or after the acquisition.

Consider the following statement:

Employer X must conduct a IRC section 410(b) coverage test for Plan B for the 2010 plan year.

## Question 21

Is the above statement true or false?

(A) True

(B) False

# 2010

## Data for Question 22 (3 points)

As of 12/31/2009:

Active vested participants	11
Active non-vested participants	13
Terminated vested participants	3
Retired participants	5

On 1/1/2010, the only employees of the company are the active vested and active non-vested participants in the plan.

Data as of 1/1/2010:

Market value of plan assets	\$1,200,000
Actuarial value of plan assets	1,320,000
Standard Premium Funding Target	1,830,000

The PBGC Flat-rate premium rate is \$35 per participant in 2010.

The plan administrator has not made an election to use the Alternative Premium Funding Target.

## Question 22

In what range is the total PBGC premium for 2010?

- (A) Less than \$4,250
- (B) \$4,250 but less than \$5,000
- (C) \$5,000 but less than \$5,750
- (D) \$5,750 but less than \$6,500
- (E) \$6,500 or more

# 2010

## Data for Question 23 (4 points)

Type of Plan: Multiemployer.

Employer A is a contributing employer to a multiemployer plan.

Method for calculating withdrawal liability: Presumptive with mandatory de minimis rule.

Employer A completely withdraws from the plan on 12/31/2010. No other employers have ever withdrawn from the plan.

Prior to 2003 there were no unfunded vested benefits.

<u>Year</u>	<u>Total contributions – all employers</u>	<u>Total contributions Employer A</u>	<u>Total 12/31 unfunded vested benefits (all employers)</u>
2003	\$10,800,000	\$850,000	\$0
2004	11,500,000	920,000	0
2005	13,600,000	760,000	0
2006	14,800,000	650,000	0
2007	12,700,000	870,000	0
2008	11,200,000	905,000	29,900,000
2009	14,000,000	805,000	35,900,000
2010	15,800,000	725,000	35,200,000

## Question 23

In what range is the withdrawal liability for Employer A?

- (A) Less than \$1,950,000
- (B) \$1,950,000 but less than \$2,100,000
- (C) \$2,100,000 but less than \$2,250,000
- (D) \$2,250,000 but less than \$2,400,000
- (E) \$2,400,000 or more

# 2010

## Data for Question 24 (4 points)

Plan effective date: 1/1/2009.

Benefit formula: \$500 per month per year of service. No prior service credit is granted.

Vesting: 100% with 5 years of service.

The plan offers an actuarially equivalent lump sum option using 417(e)(3) interest and mortality to participants who terminate employment.

2009 AFTAP: 100%

2010 AFTAP: 30%

2011 AFTAP: 50%

2012 AFTAP: 80%

2013 AFTAP: 55%

2014 AFTAP: 65%

In each year, the AFTAP was certified by March 31 of the applicable plan year.

Data for participant Smith:

Date of birth	11/1/1949
Date of hire	1/1/1997
Date of termination	12/31/2013
Date of retirement	11/1/2014

Commutation functions based on IRC section 417(e)(3) interest and mortality:

	<u>1<sup>st</sup> Segment</u>	<u>2<sup>nd</sup> Segment</u>	<u>3<sup>rd</sup> Segment</u>
$N^{(12)}_{65}$	9,746,716		
$N^{(12)}_{70}$	6,234,830	3,446,481	
$N^{(12)}_{85}$		418,611	209,070
$D_{65}$	810,248	504,417	315,423

## Question 24

What is the maximum lump sum available for Smith at retirement?

- (A) Less than \$75,000
- (B) \$75,000 but less than \$150,000
- (C) \$150,000 but less than \$225,000
- (D) \$225,000 but less than \$300,000
- (E) \$300,000 or more

# 2010

## Data for Question 25 (2 points)

Employees enter the plan on the 1/1 or 7/1 coincident with or next following completion of one year of service. Service for eligibility is based on elapsed time.

Participants accrue a benefit upon completion of 1,000 hours of service in any plan year.

The plan covers all employees, including collectively bargained employees.

Data for selected employees:

<u>Employee</u>	<u>Collectively bargained</u>	<u>Date of birth</u>	<u>Date of hire</u>	<u>Date of termination</u>	<u>2010 hours</u>
I	Yes	1/1/1960	8/1/1995		2,000
II	No	1/1/1960	8/1/2009		2,000
III	No	1/1/1960	8/1/1995	9/1/2010	700

## Question 25

Which, if any, of the above employees are excludable employees in 2010 with respect to the non-collectively bargained portion of the plan in accordance with Regulation 1.410(b)?

- (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.

# 2010

## Data for Question 26 (3 points)

The plan is not subject to IRC section 436 benefit restrictions.

Funding target / current liability:	\$4,850,000
Assets:	5,350,000

Consider the data for the four highest paid HCEs below:

	<u>Lump sum amount</u>	<u>Funding target/ current liability</u>
Smith	\$200,000	\$180,000
Jones	290,000	260,000
Brown	230,000	180,000
Green	250,000	200,000

## Question 26

Which pair of participants could be permitted to receive their lump sum distributions regardless of who gets paid first?

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



# 2010

## Data for Question 27 (4 points)

A company sponsors two plans, a profit sharing plan with a 401(k) feature and a defined benefit plan, which are aggregated for testing purposes. The aggregated plan is not primarily defined benefit in nature and does not consist of broadly available separate plans.

Nondiscrimination testing methods and assumptions:

Standard interest rate	8.5%
Normal form of payment	Joint and 50% Survivor
Immediate annuity factor for normal form at age 65	9.77

Selected 2010 data for all NHCEs:

	<u>Age</u>	<u>Compensation</u>	<u>Increase in accrual DB accrued benefit during 2010</u>	<u>Profit sharing allocation</u>	<u>Catch up contribution</u>	<u>401(k) deferral</u>
NHCE1	50	\$50,000	\$1,000	\$1,000	\$1,000	\$1,000
NHCE2	35	50,000	2,000	500	0	0

The aggregated plans use the gateway test to determine whether testing can be performed on a benefits basis.

The equivalent defined benefit allocations are averaged.

## Question 27

What is the equivalent allocation rate for NHCE1?

- (A) Less than 7%
- (B) 7% but less than 8%
- (C) 8% but less than 9%
- (D) 9% but less than 10%
- (E) 10% or more

# 2010

## Data for Question 28 (2 points)

A plan allows voluntary employee contributions.

Data for participant Smith:

Date of birth	1/1/1946
Date of hire	1/1/2008
Date of termination	12/31/2010

Smith makes one voluntary employee contribution of \$1,000 on 12/31/2008 .

120% of federal mid-term rate for 2008:	4.31%
120% of federal mid-term rate for 2009:	2.48%
120% of federal mid-term rate for 2010:	2.47%

Trust earnings during 2008:	4.00%
Trust earnings during 2009:	4.00%
Trust earnings during 2010:	4.00%

Applicable 417(e) segment rates for 2010: {5%, 5.5%, 6%}

## Question 28

In what range is the value of Smith's employee-paid benefit as of 12/31/2010?

- (A) Less than \$1,067
- (B) \$1,067 but less than \$1,084
- (C) \$1,084 but less than \$1,101
- (D) \$1,101 but less than \$1,118
- (E) \$1,118 or more

# 2010

## Data for Question 29 (4 points)

Plan effective date: 9/1/2006.

Plan provisions:

Benefit formula

Division 1: 2.0% of average annual compensation times years of participation

Division 2: 0.5% of average annual compensation times years of participation

Vesting: 100% for all participants

Plan termination date: 12/31/2010.

The PBGC determines that the plan was terminated for a reasonable business purpose.

Data for Smith and Jones, neither of whom is a majority owner:

	<u>Smith</u>	<u>Jones</u>
Division	1	2
Date of hire	1/1/2007	1/1/2008
Date of participation	1/1/2007	1/1/2008
Average annual compensation	\$22,000	\$70,000

## Question 29

In what range is the sum of the monthly benefits payable at normal retirement date that is guaranteed by the PBGC for Smith and Jones?

- (A) Less than \$181
- (B) \$181 but less than \$195
- (C) \$195 but less than \$209
- (D) \$209 but less than \$223
- (E) \$223 or more

# 2010

## Data for Question 30 (3 points)

Benefit formula: 1.5% of final compensation per year of service.

Early retirement date: Age 60 with 10 years of service.

Early retirement formula:

Before 1/1/2007	Accrued benefit, unreduced
After plan amendment effective 1/1/2007	Accrued benefit reduced 4% for each year the benefit commences before normal retirement date

Data for participant Smith:

Date of birth	1/1/1949
Date of hire	1/1/1980
Date of retirement	1/1/2009
Monthly accrued benefit as of 12/31/2006	\$1,650
Annual compensation each year from 2007 to date of retirement	\$50,000

## Question 30

In what range is the monthly benefit payable to Smith on his date of retirement?

- (A) Less than \$1,400
- (B) \$1,400 but less than \$1,550
- (C) \$1,550 but less than \$1,700
- (D) \$1,700 but less than \$1,850
- (E) \$1,850 or more

Data for Question 31 (2 points)

Consider the following statements:

- I. In a standard termination, a plan amendment adopted after the plan's termination date that increases benefits is taken into account with respect to a participant's benefits.
- II. In a distress termination, beginning on the proposed termination date, the plan administrator must limit benefit payments in accordance with PBGC regulations.
- III. In a distress termination, beginning on the proposed termination date, the plan administrator must cease paying lump sums.

Question 31

Which, if any, of the above statement(s) is (are) true?

- (A) None
- (B) I and II only
- (C) I and III only
- (D) II and III only
- (E) The correct answer is not given by (A), (B), (C), or (D) above.

## 2010

### Data for Question 32 (3 points)

A plan terminates with excess assets.

The plan will not be amended to increase benefits.

The company intends to establish a qualified replacement plan and transfer into this plan the minimum amount necessary to lower the excise tax to less than 50%.

The present value of benefits on a termination basis is \$750,000.

The excise tax paid by the company as a result of the reversion is \$46,000.

### Question 32

In what range was the value of plan assets before the transfer to the qualified replacement plan?

- (A) Less than \$990,000
- (B) \$990,000 but less than \$1,020,000
- (C) \$1,020,000 but less than \$1,050,000
- (D) \$1,050,000 but less than \$1,080,000
- (E) \$1,080,000 or more

# 2010

## Data for Question 33 (3 points)

Plan A is a multiemployer plan.

Actuarial cost method: entry age normal cost method.

1/1/2009 certified IRC section 432 status: Neither endangered status nor critical status.

Selected valuation results as of 1/1/2010:

Projected actuarial accrued liability on unit credit cost method	\$100,000,000
Projected actuarial accrued liability on entry age normal cost method	130,000,000
Actuarial value of assets	84,000,000
Market value of assets	70,000,000

<u>Year</u>	Projected credit balance / (funding deficiency)
2010	12,000,000
2011	9,862,580
2012	6,949,591
2013	3,832,693
2014	497,612
2015	(3,070,924)
2016	(7,654,309)
2017	(12,558,530)
2018	(17,806,047)
2019	(23,420,889)
2020	(29,428,771)

There are no extensions of amortization periods as defined under section 431(d).

## Question 33

What is the certified IRC section 432 status for 2010?

- (A) Neither endangered status nor critical status
- (B) Endangered status
- (C) Seriously endangered status
- (D) Critical status
- (E) Insufficient data to determine

# 2010

## Data for Question 34 (3 points)

Plan effective date: 1/1/1990.

The plan offers optional unlimited lump sums to terminated participants equal to the actuarial equivalent of the accrued benefit.

The plan has not purchased annuities in the past three years.

AFTAP as of 1/1/2009: 82%.

AFTAP as of 1/1/2010: 75%.

All AFTAPs are certified before April 1 of the applicable year.

Data for participant Smith:

Marital status	Single
Retirement date	7/1/2010
Retirement age	65
Monthly accrued benefit	\$7,500

The plan uses IRC section 417(e) assumptions for actuarial equivalence, for which  $\ddot{a}^{(12)}_{65} = 11.67$

## Question 34

In what range is the amount of the unrestricted portion of Smith's lump sum payment in 2010?

- (A) \$0
- (B) \$1 but less than \$284,000
- (C) \$284,000 but less than \$568,000
- (D) \$568,000 but less than \$852,000
- (E) \$852,000 or more



# 2010

## Data for Question 35 (4 points)

Data as of 1/1/2010:

Standard Premium Funding Target	\$79,000,000
Alternative Premium Funding Target	75,000,000
Market value of assets before reflecting contributions receivable	50,000,000
Funding standard carryover balance	2,000,000
Prefunding balance	500,000

Contributions paid during 2010:

<u>Date paid</u>	<u>Amount</u>	<u>For plan year</u>
1/15/2010	\$1,500,000	2009
4/15/2010	2,000,000	2010
7/15/2010	2,000,000	2010
9/15/2010	10,000,000	2009
10/15/2010	2,000,000	2010

Effective interest rates:

Plan year 2009	6.50%
Plan year 2010	5.50%

The plan administrator has not made an election to use the Alternative Premium Funding Target.

## Question 35

In what range is the PBGC Variable-rate premium for 2010?

- (A) Less than \$131,000
- (B) \$131,000 but less than \$161,000
- (C) \$161,000 but less than \$191,000
- (D) \$191,000 but less than \$221,000
- (E) \$221,000 or more

# 2010

## Data for Question 36 (5 points)

A company sponsors two qualified retirement plans.

Plan A	Defined benefit pension plan
Plan B	Profit sharing plan with 401(k) feature

The plans are aggregated for purposes of coverage and nondiscrimination testing.

Coverage and nondiscrimination testing methods and assumptions:

Testing method	Benefits basis
Measurement period	Current plan year
Testing age	65
Standard interest rate	8.5%

Annuity factor for testing at testing age: 9.00

Data for all non-excludable employees for 2009:

	Current <u>age</u>	Testing <u>compensation</u>	401(k) <u>deferral</u>	Profit sharing <u>contribution</u>	Plan A annual <u>accrual</u>
HCE1	60	\$245,000	\$16,500	\$32,500	\$20,000
HCE2	65	245,000	16,500	32,500	20,000
NHCE1	25	20,000	0	800	300
NHCE2	45	15,000	1,000	750	0
NHCE3	40	55,000	300	0	2,000

## Question 36

In what range is the average benefits percentage test percentage?

- (A) Less than 70%
- (B) 70% but less than 80%
- (C) 80% but less than 90%
- (D) 90% but less than 100%
- (E) 100% or more

# 2010

## Data for Question 37 (2 points)

The plan sponsor ceased operations at a facility resulting in the separation from employment of 3,000 participants.

Immediately preceding the cessation of operations the plan had 14,000 participants, 8,000 of whom were active.

On date of facility shutdown:

Liability on a PBGC termination basis	\$90,000,000
Assets	\$65,000,000

## Question 37

In what range is the amount of employer liability under ERISA section 4062(e) for cessation of operations at a facility?

- (A) Less than \$7,000,000
- (B) \$7,000,000 but less than \$14,000,000
- (C) \$14,000,000 but less than \$21,000,000
- (D) \$21,000,000 but less than \$28,000,000
- (E) \$28,000,000 or more

# 2010

## Data for Question 38 (3 points)

A plan is in at-risk status under IRC section 430(i).

The Plan has not purchased annuities in the past three years.

Segment rates for funding:

2009 plan year	{5.20%, 6.10%, 6.50%}
2010 plan year	{6.50%, 7.00%, 7.20%}

AFTAP as of 1/1/2009: 72%

As of 7/1/2010, the 2010 AFTAP has not been certified.

2009 effective interest rate: 5.50%

On 7/1/2010 the plan sponsor amends the plan to increase benefits. The present value as of 1/1/2010 of the increase in the funding target due to this amendment is \$1,100,000.

The at-risk present value of the increase in funding target due to this amendment as of 1/1/2010 is \$1,200,000.

## Question 38

In what range is the IRC section 436 contribution that the plan sponsor must make on 7/1/2010 in order for the amendment to take effect?

- (A) Less than \$1,130,000
- (B) \$1,130,000 but less than \$1,240,000
- (C) \$1,240,000 but less than \$1,350,000
- (D) \$1,350,000 but less than \$1,460,000
- (E) \$1,460,000 or more

# 2010

## Data for Question 39 (3 points)

Data as of 1/1/2010:

Standard Premium Funding Target	\$2,500,000
Alternative Premium Funding Target	2,690,000
Market value of assets	2,160,000
Actuarial value of assets	2,376,000

First day of  
plan year

Prior to 8/1/2010: January 1

After 7/31/2010: August 1

An election was made to use the Alternative Premium Funding Target for premium purposes.

## Question 39

In what range is the required PBGC Variable-rate Premium for the plan year that began January 1, 2010?

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

Data for Question 40 (3 points)

Type of plan: Multiemployer.

The plan is not in critical status.

<u>Year</u>	Employer A contribution <u>base units</u>
1996	1,300,000
1997	1,200,000
1998	1,250,000
1999	1,300,000
2000	1,400,000
2001	1,350,000
2002	1,000,000
2003	430,000
2004	350,000
2005	300,000
2006	300,000
2007	200,000
2008	250,000
2009	250,000

Question 40

In what range is the fraction that will be multiplied by A's total withdrawal liability to determine its initial partial withdrawal liability?

- (A) Less than 0.72
- (B) 0.72 but less than 0.76
- (C) 0.76 but less than 0.80
- (D) 0.80 but less than 0.84
- (E) 0.84 or more

# 2010

## Data for Question 41 (2 points)

Consider the following plans:

- |        |   |
|--------|---|
| Plan X | Provides an accrued benefit equal to 1.5% of final average compensation for the first 10 years of service, 1.75% of final average compensation for the next 10 years of service and 2.25% of final average compensation for the next 10 years of service. Service is limited to 30 years. |
| Plan Y | Provides an accrued benefit equal to 1.5% of final average compensation for the first 10 years of service and 2.0% of final average compensation for years of service in excess of 10. The Plan requires active participants to contribute 1.0% of pay.                                   |
| Plan Z | Provides an accrued benefit equal to 1.25% of final average compensation for each year of service plus 0.65% of final average compensation in excess of covered compensation. Service is limited to 30 years.   |

## Question 41

Based on the information provided, which of the above plans may satisfy the safe harbor benefit rules under IRC section 401(a)(4)?

- (A) None
- (B) Plan X only
- (C) Plan Y only
- (D) Plan Z only
- (E) The correct answer is not given by (A), (B), (C), or (D) above.

## 2010

### Data for Question 42 (3 points)

Plan effective date:	1/1/1980.
Normal retirement benefit:	\$1,500 per year for each completed year of service.
Early retirement eligibility:	Age 60 with 5 years of service.
Early retirement reduction:	4% for each year before age 65.
Plan normal form of benefit payment:	Single life annuity.
Qualified joint and survivor annuity for married participants:	Joint and 50% survivor annuity.
Pre-retirement death benefit:	Minimum qualified pre-retirement spousal annuity under IRC section 417 beginning no earlier than the date required by law.

Factor to convert the normal form of benefit to a 50% joint & survivor annuity: 0.86.

### Data for participant Smith:

Date of birth	1/1/1954
Date of hire	1/1/1992
Spouse date of birth	1/1/1957
Date of marriage	7/1/2000
Date of death	1/1/2010

### Question 42

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

- (A) Less than \$8,000
- (B) \$8,000 but less than \$10,000
- (C) \$10,000 but less than \$12,000
- (D) \$12,000 but less than \$14,000
- (E) \$14,000 or more



Data for Question 43 (2 points)

An NHCE participant timely receives an applicable ERISA section 203(a)(3)(B) notice related to the suspension of benefit payments. The participant continues working past normal retirement age.

Consider the following statements:

- I. The plan must begin payment of benefits to the participant, unless the participant otherwise elects, within 60 days after the close of the plan year in which the latest of the following occurs: (a) the earliest of the participant's attaining age 65 or the plan's normal retirement date, (b) the 10<sup>th</sup> anniversary of the participant's participation in the plan, or (c) the participant's termination of employment, but not later than the required beginning date under IRC section 401(a)(9).
- II. The plan must provide the participant with an actuarially-increased normal retirement benefit if the participant commences payment prior to age 70 1/2.
- III. The plan benefit formula must consider the participant's service and salary through the date of termination, if applicable.

Question 43

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

- (A) None
- (B) I only
- (C) II only
- (D) III only
- (E) The answer is not given by (A), (B), (C), or (D) above.

Data for Question 44 (2 points)

Consider the following statements:

- I. A plan fiduciary can be held personally liable for a breach of fiduciary duty.
- II. If fiduciary Smith commits a breach of fiduciary duty and fiduciary Jones later learns of the breach but does nothing, only Smith has committed a breach of fiduciary duty.
- III. Fiduciary breaches do not apply in the case of a fully-insured plan.

Question 44

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

- (A) None
- (B) I and II only
- (C) I and III only
- (D) II and III only
- (E) The answer is not given by (A), (B), (C), or (D) above.

Data for Question 45 (2 points)

Consider the following benefits in a multiemployer defined benefit plan:

- I. Qualified disability payments not in pay status.
- II. Subsidized early retirement benefits.
- III. Optional forms of payment other than a qualified joint and survivor.
- IV. Post-retirement death benefits.

Question 45

How many of the above types of benefits are “adjustable benefits” under IRC section 432(e)(8)?

- (A) 0
- (B) 1
- (C) 2
- (D) 3
- (E) 4

# 2010

## Data for Question 46 (3 points)

Effective date of plan: 1/1/2000.

The plan pays automatic lump sums that are under \$5,000 and otherwise offers optional unlimited lump sum payments to terminated participants.

The 2010 AFTAP of 75% was certified on 4/1/2010.

In May of 2010 the following three participants terminate employment and request immediate lump sum distributions:

	Lump sum available before considering <u>restrictions</u>	Present value of maximum PBGC <u>guaranteed benefit</u>
NHCE1	\$4,957	\$100,000
NHCE2	549,620	220,000
NHCE3	650,602	640,000

## Question 46

What is the total of the lump sums that may be paid to the terminated participants?

- (A) Less than \$469,000
- (B) \$469,000 but less than \$509,000
- (C) \$509,000 but less than \$549,000
- (D) \$549,000 but less than \$589,000
- (E) \$589,000 or more

## 2010

### Data for Question 47 (2 points)

Information for NHCE participant Smith for 2010:

Normal accrual rate ("NAR")	7.59%
Most valuable accrual rate ("MVAR")	8.53%

Information for all rate groups for 2010:

	<u>NAR</u>	<u>MVAR</u>
Rate group 1	3.21%	5.39%
Rate group 2	4.56%	8.43%
Rate group 3	6.95%	9.23%
Rate group 4	7.00%	7.00%

### Question 47

In how many rate groups is participant Smith?

- (A) 0
- (B) 1
- (C) 2
- (D) 3
- (E) 4

THIS PAGE WAS INTENTIONALLY LEFT BLANK

### Answer Key EA-2B May 2010

**May 2010 EA2B: Questions 18, 33, and 45 were deemed to be defective as they inadvertently tested material that was not on the May 2010 EA2B syllabus. Consequently, questions 18, 33, and 45 were scored as correct for all candidates in the grading process.**

Question	Answer		Question	Answer
1	B		26	C
2	A		27	A
3	A		28	B
4	B		29	C
5	B		30	C
6	B		31	B
7	B		32	D
8	B		33	
9	B		34	C
10	B		35	C
11	A		36	B
12	B		37	B
13	A		38	C
14	A		39	C
15	B		40	D
16	A		41	D
17	A		42	B
18			43	E
19	A		44	E
20	B		45	
21	B		46	D
22	D		47	D
23	D			
24	C			
25	A			

THIS PAGE WAS INTENTIONALLY LEFT BLANK