
SOCIETY OF ACTUARIES
Design & Accounting Exam – U.S.

Exam RETDAU

AFTERNOON SESSION

Date: Thursday, April 27, 2017

Time: 1:30 p.m. – 3:45 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This afternoon session consists of 5 questions numbered 9 through 13 for a total of 40 points. The points for each question are indicated at the beginning of the question. Questions 10 and 11 pertain to the Case Study, which is enclosed inside the front cover of this exam booklet.
2. Failure to stop writing after time is called will result in the disqualification of your answers or further disciplinary action.
3. While every attempt is made to avoid defective questions, sometimes they do occur. If you believe a question is defective, the supervisor or proctor cannot give you any guidance beyond the instructions on the exam booklet.

Written-Answer Instructions

1. Write your candidate number at the top of each sheet. Your name must not appear.
2. Write on only one side of a sheet. Start each question on a fresh sheet. On each sheet, write the number of the question that you are answering. Do not answer more than one question on a single sheet.
3. The answer should be confined to the question as set.
4. When you are asked to calculate, show all your work including any applicable formulas.
5. When you finish, insert all your written-answer sheets into the Essay Answer Envelope. Be sure to hand in all your answer sheets because they cannot be accepted later. Seal the envelope and write your candidate number in the space provided on the outside of the envelope. Check the appropriate box to indicate morning or afternoon session for Exam RETDAU.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

CASE STUDY INSTRUCTIONS

The case study will be used as a basis for some examination questions. Be sure to answer the question asked by referring to the case study. For example, when asked for advantages of a particular plan design to a company referenced in the case study, your response should be limited to that company. Other advantages should not be listed, as they are extraneous to the question and will result in no additional credit. Further, if they conflict with the applicable advantages, no credit will be given.

****BEGINNING OF EXAMINATION****

Afternoon Session
Beginning with Question 9

- 9.** (8 points) Union employees in the oil industry participate in a multiemployer pension plan (MEPP) with the following plan provisions:

Normal Retirement Benefit	1% of final average pay times years of service, payable as a 10 year certain and life annuity
Final Average Pay	Highest 5 of last 10 years of pay
Normal Retirement Age	Age 62
Early Retirement	Age 50, reduced by 3% per year under 62
Unreduced Pension	25 years of service
Disability	Meet Social Security Disability requirements, disability benefit equal to Normal Retirement Benefit calculated using projected service and salary at Normal Retirement Age payable immediately
Death	10 years of service, unreduced Normal Retirement Benefit payable immediately to beneficiary
Optional Forms of Payment	Lump sum, single life annuity, unreduced joint and 50% survivor annuity

The participating employers would like to reduce costs and align the plan provisions with a traditional MEPP.

- (a) (5 points) Critique the plan provisions as compared to a traditional MEPP.
- (b) (2 points) Recommend four changes to the plan provisions to meet all objectives of the participating employers.

Justify your response.

- (c) (1 point) Describe potential barriers to making plan changes to MEPPs.

Question 10 pertains to the Case Study.

10. (12 points) Effective January 1, 2018, NOC has amended the Full-Time Salaried and Union Retiree Health Benefit Program. NOC will no longer reimburse claims for current and future Medicare-eligible retirees (age 65 and older). Instead, NOC will establish Health Reimbursement Accounts (“HRA”) with an annual subsidy of \$2,500 for retirees to purchase coverage from an insurance exchange and to pay for qualifying health care expenses. Benefits for current and future retirees under age 65 will remain unchanged.

(a) (2 points) Explain why NOC would implement this change for its Medicare-eligible retirees.

The plan change will be communicated to current and former employees on July 1, 2017. You are given:

- The discount rate as of July 1, 2017 is 3.50%.
- The change in the Accumulated Postretirement Benefit Obligation (APBO) due to the discount rate change as of July 1, 2017 is \$97,000,000.
- There are no other assumption changes.
- There are no other gains or losses.
- Benefit payments from January 1, 2017 to June 30, 2017 are \$30,000,000.
- The change in the APBO as of July 1, 2017 due to the plan changes is as follows (shown at both January 1, 2017 and July 1, 2017 discount rates):

Discount Rate	3.75%	3.50%
Transition to Exchange	(\$1,875,000,000)	(\$1,925,000,000)
Implement HRA Subsidy	\$262,500,000	\$271,000,000

- The change in the beginning of period annual Service Cost due to the plan changes is as follows (shown at both January 1, 2017 and July 1, 2017 discount rates):

Discount Rate	3.75%	3.50%
Transition to Exchange	(\$65,275,000)	(\$67,300,000)
Implement HRA subsidy	\$9,140,000	\$9,425,000

(b) (8 points) Calculate the revised fiscal 2017 Net Periodic Benefit Cost under U.S. accounting standard ASC 715 reflecting the plan change.

Show all work.

10. Continued

You are given:

- The discount rate as of December 31, 2017 is 3.35%.
 - The APBO as of December 31, 2017 reflecting the new discount rate is \$1,725,000,000.
 - Benefit payments from July 1, 2017 through December 31, 2017 were \$30,000,000.
 - There are no other assumption changes.
 - There are no other gains and losses.
- (c) (2 points) Reconcile the change in Accumulated Other Comprehensive Income from December 31, 2016 to December 31, 2017 under ASC 715.

Question 11 pertains to the Case Study.

- 11.** (8 points) Company ABC wants to implement a defined contribution (DC) plan for its employees in Gevrey. The plan will allow voluntary employee contributions up to 20% of salary and provide matching employer contributions of 50% of employee contributions.
- (a) (2 points) Identify the risks of the proposed plan design, including risks specific to highly-paid and lower-paid plan participants.
 - (b) (3 points) Describe six different ways participants can mitigate risks identified in part (a) above.
 - (c) (3 points) Recommend changes to the plan design that would help participants maximize retirement income.

Justify your response.

12. (5 points) Company XYZ is establishing a non-qualified defined contribution plan for executives. Company XYZ's compensation philosophy emphasizes pay for performance and aligns rewards with company revenue growth. A significant portion of executives' pay is variable merit-based lump sum payments and broad-based incentives.

- (a) (2 points) Identify benefits and vesting options for the plan that will achieve the objectives of the compensation philosophy.

Justify your response.

- (b) (3 points) Describe considerations of including or excluding variable pay from the plan benefit formula from the perspective of Company XYZ.

- 13.** (7 points) Company XYZ sponsors a defined benefit pension plan. The actuary for Company XYZ has proposed a discount rate assumption of 3.25% for the 2017 fiscal year end accounting disclosures report under the U.S. accounting standard ASC 715, based on a bond yield curve approved by Company XYZ's auditing firm.

Company XYZ's management has insisted the actuary prepare the 2017 fiscal year end accounting disclosures based on a 5.50% discount rate.

The actuary completes the report using the 5.50% discount rate.

- (a) (3 points) Describe the precepts of the Society of Actuaries (SOA) Code of Professional Conduct that may have been violated by the actuary.
- (b) (3 points) Describe the disclosures that should be contained in a report with respect to economic assumptions based on the Actuarial Standards of Practice No 27.
- (c) (1 point) Describe the qualifying opinion statements the signing actuary should have included in the report for the discount rate assumption.

****END OF EXAMINATION****
Afternoon Session

USE THIS PAGE FOR YOUR SCRATCH WORK

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