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

# Exam RETDAU

## AFTERNOON SESSION

**Date:** Thursday, November 3, 2016

**Time:** 1:30 p.m. – 3:45 p.m.

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### INSTRUCTIONS TO CANDIDATES

#### General Instructions

1. This afternoon session consists of 6 questions numbered 8 through 13 for a total of 40 points. The points for each question are indicated at the beginning of the question. There are no questions in the Afternoon Session that pertain to the Case Study.
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.



**\*\*BEGINNING OF EXAMINATION\*\***

**Afternoon Session**  
***Beginning with Question 8***

**8.** (7 points)

- (a) (3 points) Explain the advantages of the Association of Canadian Pension Management (ACPM) Target Benefit Plan concept (TBP) compared to a traditional defined benefit pension plan from the perspective of the plan sponsor.
- (b) (2 points) Explain how the TBP may improve retirement outcomes for pension plan participants compared to a defined contribution pension plan.
- (c) (2 points) Describe information that should be communicated to help members understand the risks of the TBP.

9. (8 points) Company A sponsors Plan A, a defined benefit pension plan. On December 31, 2016, Company A will be selling a portion of their business to Company B.

In connection with the sale:

- Certain employees will cease to be employed by Company A, which will reduce the Projected Benefit Obligation (PBO) of Plan A by \$35 million and will reduce the total future service of active participants of Plan A by 20%.
- The terminated employees will be hired by Company B which sponsors Plan B, a defined benefit pension plan.
- Plan liability of \$200 million and plan assets of \$220 million will be transferred from Plan A to Plan B.

Prior to the sale, the U.S. Accounting Standard ASC 715 results for Plan A as of December 31, 2016 are expected to be as follows:

PBO	\$650 million
Market Value of Assets	\$750 million

Amounts reflected in Accumulated Other Comprehensive Income (AOCI) as of December 31, 2016:

Transition Obligation / (Asset)	\$0
Prior Service Cost	\$20 million
Net (Gain)/Loss	\$180 million

Calculate the following items for Company A under ASC 715 as a result of the sale.

- Funded status as of December 31, 2016
- AOCI as of December 31, 2016
- Change in the 2016 Net Periodic Pension Cost

Show all work.

**10.** (5 points)

- (a) (2 points) Describe the advantages and disadvantages of developing a custom mortality table rather than using a standard table for a large pension plan.
- (b) (3 points) Describe the mortality assumption disclosure items that need to be included in actuarial communications under applicable Actuarial Standards of Practice.

**11.** (5 points) Company XYZ sponsors a final average pay Defined Benefit (DB) plan.

The main provisions of the DB plan are as follows:

- Benefit service: one year granted for at least 1,800 hours worked in a year; no partial credit
- Final average pay: highest average of 3 consecutive years of actual pay out of the last 5 years
- Normal retirement age: 65
- Early retirement benefit: reduced 2% per year from age 62 if 15 or more years of service; actuarially reduced otherwise
- Benefit accruals are suspended while employed after age 65.

Company XYZ plans to implement a phased retirement program where employees over age 55 may reduce their work schedule to 20 hours per week and continue receiving medical coverage. No other benefit provision changes have been contemplated.

- (a) (3 points) Assess the effect of the phased retirement program on the DB plan benefits of those who participate in the program.
- (b) (2 points) Recommend design changes to the DB plan to ensure employees are treated equally regardless of when they choose to retire and whether they elect to participate in the phased retirement program.

Justify your response.

**12.** (8 points)

- (a) (1 point) List six stakeholders in a retirement system that covers public sector employees.
- (b) (4 points) Describe for each stakeholder identified in part (a) the key objectives as they relate to a public sector employees' retirement system.
- (c) (3 points) Describe the considerations when providing enhanced pension benefits to executives in a public sector plan from the point of view of three of the stakeholders in part (a).

**13.** (7 points)

- (a) (1 point) Identify incentives for a plan sponsor to maintain a retiree health care plan.
- (b) (3 points) Explain three ways The Patient Protection and Affordable Care Act (PPACA) legislation impacted the reasons a plan sponsor would offer a retiree health care plan.
- (c) (3 points) Describe six strategies a plan sponsor may consider in order to reduce employer costs within its retiree health care plan.

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



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