

Exam RETDAU

AFTERNOON SESSION

Date: Thursday, May 2, 2019

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
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.

Canadian version of this exam is recognized by the Canadian Institute of Actuaries.

****BEGINNING OF EXAMINATION****
Afternoon Session
Beginning with Question 9

- 9.** (10 points)
- (a) (2 points) Compare and contrast each component of Net Periodic Pension Cost under U.S. Accounting Standard ASC 715 (ASC 715) and International Accounting Standard IAS 19, Rev. 2011 (IAS 19).
 - (b) (5 points) Compare and contrast each component of Net Periodic Pension Cost under ASC 715 for the following types of plans:
 - (i) Defined contribution pension plan
 - (ii) Defined benefit pension plan
 - (iii) Unfunded postretirement medical plan
 - (c) (3 points) Evaluate the impact of changing from a traditional final average pay defined benefit pension plan to a less generous cash balance pension plan on each component of Net Periodic Pension Cost under ASC 715.

10. (12 points) Company ABC sponsors a frozen defined benefit pension plan.

You are provided the following:

	As of January 1, 2019
Projected Benefit Obligation	\$125,000,000
Market Value of Assets	\$100,000,000
Net (Gain)/Loss	\$50,000,000
Prior Service Cost	\$0
Discount Rate	5.00%
Expected Rate of Return on Assets	7.00%
Average Remaining Service	15 years
2019 Expected Benefit Payments	\$10,000,000
2019 Expected Contributions	\$25,000,000
Expected Contribution Date	7/1/2019

- (a) (2 points) Calculate the 2019 Net Periodic Pension Cost under U.S. Accounting Standard ASC 715 (ASC 715).

Show all work.

Company ABC is considering an annuity buy-out for all of its current retirees with small monthly benefits in order to reduce risk.

- (b) (2 points) Identify advantages and disadvantages of implementing this strategy.

No calculations required.

10. Continued

Company ABC is estimating the impact of an annuity buy-out as of September 30, 2019 for a portion of plan retirees.

You are given the following information as of September 30, 2019:

Discount Rate	4.00%
Liability duration for the retirees included in the annuity buy-out	10 years
Liability duration for the population excluded from the annuity buy-out	15 years
Projected Benefit Obligation of the retirees in the annuity buy-out	\$28,500,000
Annuity Purchase Premium	\$30,000,000
Market Value of Asset prior to annuity buy-out	\$110,000,000
Actual Benefit Payments 1/1/2019 – 9/30/2019	\$7,500,000
Actual Contributions 1/1/2019 – 9/30/2019	\$25,000,000

All other assumptions remain the same as January 1, 2019.

- (c) (7 points) Calculate the settlement charge under ASC 715 that would result from the annuity buy-out.

Show all work.

Company ABC has determined that the accounting impact of the annuity buy-out is cost prohibitive.

- (d) (1 point) Propose an alternative approach that would decrease or eliminate the impact while still achieving the advantages of an annuity buy-out.

Justify your response. No calculations required.

11. (6 points)

- (a) (4 points) Describe considerations, including applicable Actuarial Standards of Practice, for determining the credibility factor applied to a pension plan's actual mortality experience.

You are a consulting actuary for a large Multi-Employer Pension Plan (MEPP). There are several unions participating in the MEPP. You have developed a plan-specific mortality table based on the plan's mortality experience.

- (b) (2 points) Describe the procedures to modify the plan-specific mortality table to reflect the experience of a single union within the MEPP.

- 12.** (8 points) Company ABC acquired Company XYZ. Company XYZ sponsors a defined contribution (DC) pension plan and an international pension plan. Company ABC sponsors a DC pension plan.
- (a) (3 points) Describe the investment features that must be considered if Company ABC merges the two DC pension plans.
 - (b) (3 points) Describe Company ABC's considerations when developing a communication strategy for merging the two DC pension plans.
 - (c) (2 points) Explain why Company ABC might consider terminating the international pension plan.

13. (4 points)

- (a) (2 points) Describe how a variable annuity payout option in a defined benefit pension plan can be used to manage retirees' inflation risk.
- (b) (2 points) Describe two approaches to minimize the volatility of variable annuity payouts in a defined benefit pension plan.

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

USE THIS PAGE FOR YOUR SCRATCH WORK