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

Exam RETDAU

MORNING SESSION

Date: Thursday, April 26, 2018

Time: 8:30 a.m. – 11:45 a.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has a total of 100 points. It consists of a morning session (worth 60 points) and an afternoon session (worth 40 points).
 - a) The morning session consists of 7 questions numbered 1 through 7.
 - b) The afternoon session consists of 5 questions numbered 8 through 12.

The points for each question are indicated at the beginning of the question. Questions 3, 5, 7, and 12 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.

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****
Morning Session

- 1.** (6 points)
- (a) (3 points) Describe three approaches a retiree could take to generate annual retirement income from a defined contribution plan.
 - (b) (3 points) Describe the advantages of each approach in (a).

2. (7 points) Company ABC acquired Company XYZ. Company ABC does not sponsor any retirement program for its employees. Company XYZ provides a nonqualified defined benefit pension plan (NQP) for its executives.

(a) (2 points) Describe Company ABC's due diligence considerations in respect of Company XYZ's NQP.

(b) (3 points) Describe funding options for the NQP.

Company ABC wishes to provide benefit security for the NQP with stable contributions.

(c) (2 points) Recommend a funding option for Company ABC.

Justify your response.

Question 3 pertains to the Case Study.

3. (8 points) NOC has amended the National Oil Full-Time Salaried and Union Retiree Health Benefit Program effective April 1, 2018 as follows:

- 80% of all future health costs of the plan will be paid by NOC.
- The life insurance payable upon death after retirement decreases to \$40,000.
- All plan participants are affected by the changes.

You are given the following:

Actual Benefit Payments for the first three months of 2018	\$16,250,000
Service Cost Duration	20
Discount Rate at April 1, 2018	4.00%

All other data and assumptions remain the same as January 1, 2018.

Calculate NOC's revised 2018 Net Periodic Benefit Cost under U.S. Accounting Standard ASC 715, assuming remeasurement on the effective date.

Show all work.

4. (8 points)

- (a) (2 points) Describe the plan design features of public sector pension plans that could lead to higher costs relative to private sector pension plans.
- (b) (2 points) Identify the measures governments have enacted to help reduce the cost of public sector pension plans.
- (c) (4 points) Describe how the characteristics of the New Brunswick Shared Risk Pension Plan can help mitigate the cost challenges faced by public sector plans.

Question 5 pertains to the Case Study.

5. (11 points) NOC needs to reduce its workforce to lower costs. NOC is considering offering an early retirement incentive program (ERIP).

(a) (6 points) Describe considerations when designing an ERIP for NOC's employees.

(b) (3 points) Describe steps to implement an ERIP.

NOC has decided to offer a voluntary ERIP to its full-time salaried workforce and implement involuntary layoffs in the union hourly workforce.

(c) (2 points) Critique NOC's approach to reducing its workforce from a human resource perspective.

Justify your response.

6. (10 points) Company ABC sponsors the Hourly Defined Benefit Plan (ABC Hourly Plan), a single employer plan that covers employees who are members of the National Union (NU). Employers of other NU members participate in the NU Multiemployer Plan (NU Plan).

Details of the ABC Hourly Plan and the NU Plan are shown below:

	ABC Hourly Plan	NU Plan
Pension benefit at age 65	\$50/month per year of service	\$60/month per year of service
Funding policy contribution	Based on funded status	\$5.00 per hour worked
2017 hours	4,000,000	30,000,000
New entrants	Open to new entrants	Closed to new entrants for a majority of employers
2017 minimum required contribution	\$ 25,000,000	\$ 150,000,000

As part of ongoing negotiations between Company ABC and the NU, Company ABC is evaluating a proposal to freeze the ABC Hourly Plan and join the NU Plan for future accruals.

- (a) (5 points) Describe the advantages and disadvantages of the proposal from the perspectives of:
- (i) Company ABC.
 - (ii) NU members employed by Company ABC.
- (b) (5 points) Evaluate the implications, if the proposal is accepted, for Company ABC and NU members employed by Company ABC for each of the following scenarios:
- (i) Hours worked by non-ABC Hourly Plan participants in the NU Plan decrease by 30%.
 - (ii) Average age of active participants in the NU Plan increases by 3 years.

Question 7 pertains to the Case Study.

7. (10 points) NOC has requested a 10 year projection of the annual Net Periodic Pension Cost under U.S. Accounting Standard ASC 715 for the National Oil Full-Time Salaried Pension Plan (Salaried Plan).

(a) (6 points) Describe the assumptions required to perform the 10 year projection.

NOC wants to evaluate the financial impact of implementing a group annuity buy-out for the Salaried Plan retirees with monthly annuity values less than \$200.

(b) (4 points) Describe how the projection may differ when incorporating the impact of the retiree buy-out.

No calculations required.

****END OF EXAMINATION**
Morning Session**

USE THIS PAGE FOR YOUR SCRATCH WORK

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