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

Exam RETDAU

AFTERNOON SESSION

Date: Thursday, November 2, 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. Question 12 pertains 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. (7 points)

- (a) (3 points) Describe six plan design features for a defined contribution plan that help participants generate adequate retirement savings during their working career.

Your client is implementing a defined contribution plan with fixed employer contributions of 6% of salary. The plan has one participant and you are given the following:

Age at plan inception	30
Retirement age	65
Annual salary at plan inception	\$60,000
Assumed annual rate of return on savings	5.5%
Annual salary increase rate	2.0%
Lump sum conversion factor at age 65	12.85
Initial lump sum transferred in by employee at plan inception	\$10,000

- (b) (3 points) Calculate the retirement replacement ratio if the participant contributes 4% of salary.

Show all work.

- (c) (1 point) Calculate the employee contribution rate that will result in a retirement replacement ratio of 70%.

Show all work.

- 10.** (10 points) Company ABC has operations in several states and has both unionized and non-unionized employees. The company offers a retiree medical plan for Medicare-eligible retirees and their spouses. Company ABC and the retirees share the cost of the plan.

Company ABC is considering moving retirees in its retiree medical plan to a private exchange and offering a fixed subsidy per retiree, regardless of spousal coverage. The retirees can use the fixed subsidy to pay medical premiums and out of pocket medical expenses.

- (a) (6 points) Describe the advantages and disadvantages of the proposed changes to Company ABC's retiree medical plan from the perspective of:
- (i) Human Resources
 - (ii) Finance
 - (iii) Eligible retirees
- (b) (4 points) Describe actions Company ABC should take to achieve a successful transition to a private exchange.

11. (8 points) Company ABC is recruiting an executive who is 5 years from retirement.

Company ABC is considering offering the executive a 5-year contract with one of the following options:

Option 1: Base salary of \$750,000 with 50% target annual bonus paid in each year

Option 2: Base salary of \$600,000 with 40% target annual bonus paid in each year plus

- \$250,000 in restricted company stock in each year
- the restricted company stock vests after 3 years

Option 3: Base salary of \$500,000 with 0% target annual bonus paid in each year plus

- a total supplemental retirement benefit of \$3,000,000, payable in 5 equal annual installments
- the benefit does not vest until retirement
- the benefit is not funded

(a) (3 points) Compare and contrast the options from the perspective of:

(i) Company ABC

(ii) the executive

The executive has heard that there is a possible sale of Company ABC.

(b) (1 point) Describe the benefits of including golden parachute provisions in an executive employment contract.

(c) (4 points) Recommend four golden parachute provisions the executive should request during contract negotiations.

Justify your response.

No calculations required.

Question 12 pertains to the Case Study.

12. (9 points) NOC needs to reduce its full-time salaried workforce and is considering offering an Early Retirement Incentive Program (ERIP) through the National Oil Full-Time Salaried Pension Plan to participants who are at least age 55 with 15 or more years of service.

- (a) (1 point) Describe business and legal considerations NOC should review to determine whether to offer an ERIP.
- (b) (5 points) Describe the accounting implications under U.S. accounting standard ASC 715 if NOC implements an ERIP.

No calculations required.

- (c) (3 points) Recommend two pension plan design enhancements for the National Oil Full-Time Salaried Pension Plan which could be included in the ERIP to enhance attractiveness of the program while mitigating the additional cost to NOC.

Justify your response.

- 13.** (6 points) The CFO of Company XYZ has asked the actuary to substantially adjust the mortality assumptions used in the accounting valuation to reduce the liabilities of the pension plan.
- (a) (2 points) Explain how changing a mortality table without analysis violates the Society of Actuaries Code of Professional Conduct.
 - (b) (1 point) Describe the communication requirements under Actuarial Standard of Practice No. 35 in relation to disclosures for assumptions determined by another party.
 - (c) (3 points) Describe the considerations in setting an appropriate mortality assumption.

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

USE THIS PAGE FOR YOUR SCRATCH WORK

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