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**SOCIETY OF ACTUARIES**  
**Strategic Decision Making Exam**

# Exam CFESDM

## AFTERNOON SESSION

**Date:** Thursday, April 27, 2017

**Time:** 1:30 p.m. – 3:45 p.m.

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### INSTRUCTIONS TO CANDIDATES

#### General Instructions

1. This afternoon session consists of 4 questions numbered 6 through 9 for a total of 40 points. The points for each question are indicated at the beginning of the question. Questions 6, 8, and 9 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 CFESDM.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

Tournez le cahier d'examen pour la version française.



## **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 6***

*Question 6 pertains to the Case Study.*  
*Each question should be answered independently.*

- 6.** (10 points) Information on Blue Jay Tire (BJT) can be found in Section 3 of the Case Study.

In May 2014, BJT reported a tire defect that caused a single car accident, triggering a tire recall. BJT USA executives are currently compensated based on hitting sales targets and target production levels.

- (a) (3 points)
- (i) Define an agency relationship.
  - (ii) Describe one agency problem at BJT that might have contributed to the tire recall including identification of the agent(s) involved. Justify your answer.
- (b) (3 points)
- (i) Describe the importance of risk culture to a company's risk management framework.
  - (ii) Explain why BJT US's risk culture might differ from BJT Canada's risk culture.
- (c) (4 points)
- (i) Recommend changes to the compensation structure to reduce reputational and operational risks in BJT's US plants. Justify your recommendation.
  - (ii) Propose a risk appetite statement to address reputational and operational risks in BJT's US plants. Justify your recommendation.

**7.** (6 points) ABC Insurance Company is hedging investment risks from a deferred annuity product with over-the-counter derivatives.

- (a) (1 point) Explain how the use of this investment hedging strategy can convert one form of risk into another.
- (b) (1 point) Define the three fundamental components generally used in the measurement of counterparty credit risk.

ABC would like to consider the inclusion of a credit value adjustment (CVA).

- (c) (4 points)
  - (i) Explain how CVA is used in the measurement of counterparty credit risk.
  - (ii) Compare and contrast the use of historical data versus market data for determining appropriate CVA charges.
  - (iii) Describe when to use historical data versus market data to determine CVA charges.

**Question 8 pertains to the Case Study.**  
**Each question should be answered independently.**

- 8.** (15 points) Information on Darwin Life Insurance Company can be found in Section 7 of the Case Study.

Business problems of firms can be addressed with either group or individual decision making.

- (a) (1 points) Describe two advantages and two disadvantages of group decision making relative to individual decision making.

Darwin's CEO is trying to decide whether to launch a direct marketing distribution channel to sell life insurance products over the internet.

- (b) (2 points) Determine the appropriate level of associate involvement in making this decision by considering the Vroom-Yetton Decision Tree method. Justify your answer.
- (c) (1 point) Identify two reasons why product innovation is difficult in the life insurance industry.
- (d) (3 points) Assess whether Darwin can successfully compete in the direct online marketplace by addressing its:
- (i) Resources
  - (ii) Capabilities
  - (iii) Core competencies

Justify your assessment.

## 8. Continued

Darwin implements the strategy and is the first insurance company to offer all of its product offerings online. The selection of products available far exceeds any competitor's online product offerings. Darwin charges the same price online as in the agency distribution channel.

- (e) (1 point) Identify the business level strategy for the direct marketing channel. Justify your response.

Darwin's existing career agents are not happy with the introduction of this new online distribution channel. This has created conflict between Darwin and its career agents.

There are four possible conflict outcomes:

- I. Lose-Lose
- II. Lose-Win
- III. Compromise
- IV. Win-Win

- (f) (7 points)

- (i) (2 points) Describe a potential scenario for each of the conflict outcome categories (I to IV) above for the conflict between Darwin and its career agents.
- (ii) (5 points) Compose a message for the CEO to send to all career agents that will maximize the potential for a Win-Win outcome using integrative tactics.

***Question 9 pertains to the Case Study.  
Each question should be answered independently.***

- 9.** (9 points) Information on Blue Jay Tire (BJT) can be found in Section 3 of the Case Study.

BJT charges a one-time only premium for its warranty program payable at the date of tire purchase. BJT immediately records the full payment received as revenue.

- (a) (2 points)

- (i) Critique BJT's treatment of warranty revenue based on generally accepted accounting principles.
- (ii) Describe how BJT should recognize the warranty revenue. Justify your answer.

Pierre Beaudry, CEO of BJT, is looking to expand the Canadian warranty program into the US market. BJT has decided to allocate the following costs to the warranty program:

- A. Selling General & Administrative
- B. Tire Replacement Expenses
- C. Research Development

- (b) (3 points)

- (i) Recommend an appropriate allocation method for each of the above costs. Justify your answer.
- (ii) Explain why appropriate cost allocation is important for evaluating the warranty program's performance.



## 9. Continued

BJT is considering insurance to cover the warranty program.

Information on Blue Ocean P&C Company can be found in Section 5 of the Case Study.

(c) (4 points)

- (i) Describe two similarities between warranty programs and P&C insurance related to risk exposure.
- (ii) Assess whether Blue Ocean has the capabilities to insure this warranty program. Justify your answer.
- (iii) Assess whether this warranty program aligns with Blue Ocean's mission. Justify your answer.

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

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