INSTRUCTIONS TO CANDIDATES

1. This 90 point examination consists of 62 questions divided into two sections. Section I contains 16 multiple choice questions worth 1 point each. Section II contains 46 problem and essay questions worth a total of 74 points.

2. To answer the multiple choice questions, use the short-answer card provided and a number 2 or HB pencil only. Mark your short-answer card during the examination period. No additional time will be allowed for this after the exam has ended. Please make your marks dark and fill in the spaces completely. Fill in that it is Spring 2005, and the exam number, 7-Canada.

Darken the spaces corresponding to your Candidate ID number. Five rows are available. If your Candidate ID number is fewer than 5 digits, include leading zeros. (For example, if your Candidate ID number is 987, consider that your Candidate ID number is 00987, enter a zero on the first row, 0 on the second row, 9 on the third row, 8 on the fourth row, and 7 on the fifth [last] row.) Please write in your Candidate ID number next to the place where you darken the spaces for your Candidate ID number. Your name, or any other identifying mark, must not appear on the short-answer card.

For each of the multiple choice questions, select the one best answer and fill in the corresponding letter. One quarter of the point value of the question will be subtracted for each incorrect answer. No points will be added or subtracted for responses left blank.

3. For the problem and essay questions, the number of points for each full question or part of a question is indicated at the beginning of the question or part. Answer these questions on the lined sheets provided in your Examination Envelope. Use dark pencil or ink. Do not use multiple colors.

Write your Candidate ID number and the examination number, 7C, at the top of each answer sheet. Your name, or any other identifying mark, must not appear.

Do not answer more than one question on a single sheet of paper. Write on only the lined side of the paper, and be careful to give the number of the question you are answering on each sheet.

CONTINUE TO NEXT PAGE OF INSTRUCTIONS

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The answer should be concise and confined to the question as posed. When a list of a specific size is requested, do not offer more items in your list than the number requested. For example, if you are requested to list three items, only the first three responses will be graded.

In order to receive full credit or to maximize partial credit on mathematical and computational questions, you must clearly outline your approach in either verbal or mathematical form, showing calculations where necessary. Also, you must clearly specify any additional assumptions you have made to answer the question.

4. Do all problems until you reach the last page of the examination where “END OF EXAMINATION” is marked.

5. All questions should be answered according to the Canadian statutory accounting practices and principles, unless specifically instructed otherwise. SAP refers to Statutory Accounting Principles, and GAAP refers to Generally Accepted Accounting Principles.

6. Your Examination Envelope is pre-labeled with your Candidate ID number, name, exam number, and test center. Do not remove this label. Keep a record of your Candidate ID number for future inquiries regarding this exam.

7. At the beginning of the examination, check through the exam booklet for any missing or defective pages. The supervisor has additional exams for those candidates who have defective exam booklets.

8. Candidates must remain in the examination center until two hours after the start of the examination. You may leave the examination room to use the restroom with permission from the supervisor. To avoid excessive noise during the end of the examination, candidates may not leave the exam room during the last fifteen minutes of the examination.

9. At the end of the examination, place the short-answer card and all answer sheets in the Examination Envelope. Please insert your answer pages in your envelope in question number order. Insert a numbered page for each question, even if you have not attempted to answer that question. BEFORE YOU TURN IN THE EXAMINATION ENVELOPE TO THE SUPERVISOR, BE SURE TO SIGN IT IN THE SPACE PROVIDED ABOVE THE CUT-OUT WINDOW.

Anything written in the examination booklet will not be graded. Only the short-answer card and the answer sheets will be graded.

10. If you have brought a self-addressed, stamped envelope, you may put the examination booklet and scrap paper inside and submit it separately to the supervisor. It will be mailed to you. (Do not put the self-addressed stamped envelope inside the Examination Envelope.)

If you do not have a self-addressed, stamped envelope, please place the examination booklet in the Examination Envelope and seal the envelope. You may not take it with you. Do not put scrap paper in the Examination Envelope. The supervisor will collect your scrap paper.

CONTINUE TO NEXT PAGE OF INSTRUCTIONS
Candidates may obtain a copy of the examination by contacting the CAS Office.

All extra answer sheets, scrap paper, etc., must be returned to the supervisor for disposal.

11. Candidates must not give or receive assistance of any kind during the examination. Any cheating, any attempt to cheat, assisting others to cheat, or participating therein, or other improper conduct will result in the Casualty Actuarial Society disqualifying the candidate's paper, and such other disciplinary action as may be deemed appropriate within the guidelines of the CAS Policy on Examination Discipline.

12. The exam survey is available on the CAS website in the “Admissions” section. Please submit your survey to the CAS Office by May 31, 2005.

END OF INSTRUCTIONS
SECTION I, QUESTIONS 1-16, MULTIPLE CHOICE QUESTIONS (1 POINT EACH)

1. Which of the following best describes contemptuous damages?
   
   A. A form of damages awarded to the plaintiff for loss of amenities.
   B. A form of damages awarded to the plaintiff when the action is frivolous.
   C. A form of damages awarded to the plaintiff to deter the tortfeasor’s conduct.
   D. A form of damages awarded to the plaintiff to cover only actual legal costs incurred.
   E. A form of damages awarded to the plaintiff to provide compensation for emotional trauma.

2. Which of the following are ways in which an insurer might be considered to have waived its right to refuse payment even though the customer has defaulted on one of the obligations in the contract?

   1. Estoppel by misrepresentation
   2. Variation of contract
   3. Promissory estoppel

   A. 1 only
   B. 2 only
   C. 1 and 3 only
   D. 2 and 3 only
   E. 1, 2, and 3

3. In evaluating the future cost of care, as part of a tort award for pecuniary loss, which of the following will reduce the amount of the awarded damages?

   A. The standard of care deemed appropriate in statutory compensation schemes.
   B. The defendant’s ability to pay.
   C. The social cost of the award.
   D. The possibility of duplication.
   E. The possibility that the plaintiff will squander his award.
4. On July 1, 1867, the British North America Act took effect to create a new federal
government for Canada. Over which of the following matters has the federal
Parliament been given exclusive legislative authority by section 91 of this Act?

A. Bankruptcy and insolvency
B. Insurance
C. Common law
D. Property and civil rights
E. Licensing of companies

5. During the late 1940s in the U.S., the South-Eastern Underwriters Association
attempted to impose its terms on nonmember insurers by which of the following
means?

1. Public criticism
2. Denial of opportunity to reinsure the business
3. Enlist the regulators’ support for price enforcement

A. 1 only
B. 2 only
C. 1 and 3 only
D. 2 and 3 only
E. 1, 2, and 3

6. An insurer submits to the Financial Services Commission of Ontario a rate filing that
is subject to major filing requirements. Which of the following are required with
respect to the loss data utilized to support that filing?

1. Direct losses should be adjusted for all reinsurance transactions.
2. Direct losses should exclude amounts incurred on Facility Association Residual
Market business.
3. Direct losses should be reduced for business transferred to the Facility
Association’s Risk Sharing Pool.

A. 1 only
B. 2 only
C. 1 and 3 only
D. 2 and 3 only
E. 1, 2, and 3

CONTINUED ON NEXT PAGE
7. Which of the following insurance doctrines are considered to be unique to marine insurance?

   1. Contribution
   2. Abandonment
   3. Constructive Total Loss

   A. 1 only
   B. 2 only
   C. 1 and 3 only
   D. 2 and 3 only
   E. 1, 2, and 3

8. Which of the following statements best describes Canada’s Agricultural Production Insurance Program?

   A. Provincial government agencies act as the insurer, delivering the insurance plans to individual producers.
   B. Federal government agencies act as the insurer, delivering the insurance plans to individual producers.
   C. Provincial government agencies act as the reinsurer to private insurers that deliver the insurance plans to individual producers.
   D. Federal government agencies act as the reinsurer to private insurers that deliver the insurance plans to individual producers.
   E. Private insurers act as the reinsurer to federal government agencies that act as the insurer, delivering the insurance plans to individual producers.


   1. Compulsion
   2. Convenience
   3. Efficiency

   A. 1 and 2 only
   B. 1 and 3 only
   C. 2 and 3 only
   D. 1, 2, and 3
   E. None of A, B, C, or D
10. Fair Access to Insurance Requirements (FAIR) Plans were created in response to specific property insurance availability problems. Which of the following statements best describes the type of properties that FAIR Plans were intended to address?

A. Properties in poor physical condition
B. Properties located in socio-economically depressed areas
C. Properties with significant commercial exposures
D. Properties not built in accordance with building and safety codes
E. Properties located in areas underserved by the voluntary market

11. Which of the following circumstances would likely result in an A.M. Best Company’s rating of S (Rating Suspended)?

A. The company has voluntarily decided to liquidate.
B. The company is in liquidation due to a court order.
C. The company’s Minimum Capital Test shows that carried surplus is at 130% of required capital.
D. The company’s surplus is just barely adequate to cover its obligations, but is vulnerable to adverse changes in underwriting and economic conditions.
E. The company discloses that it is investigating a systems-related issue that may have caused unpaid claims to be understated by 40%.

12. Which of the following are true regarding the A.M. Best Company’s rating of subsidiaries / affiliates?

1. For a company that is significantly tied to the parent’s strategy but is not critical to the parent’s success, the standalone rating of the company is not influenced by the parent.
2. For a company that is crucial to the success of the parent and is integral to the parent’s strategy, the rating of the parent usually applies.
3. For a company that is incidental to the parent’s strategy, the standalone rating of the company usually applies.

A. 1 and 2 only
B. 1 and 3 only
C. 2 and 3 only
D. 1, 2, and 3
E. None of A, B, C, or D
13. According to the Insurance Accounting and Systems Association, “Property-Casualty Insurance Accounting,” which of the following are true with respect to assets under SAP in the U.S.?

1. Preferred stocks are always valued at cost basis.
2. Most U.S. jurisdictions have no restrictions on investments in U.S. government securities.
3. Real estate properties occupied by the company are customarily admitted as net book value less related encumbrances.

A. 2 only  
B. 1 and 3 only  
C. 2 and 3 only  
D. 1, 2, and 3  
E. None of A, B, C, or D

14. Which of the following are true regarding the policy liability amounts shown on the Expression of Opinion in the Report of the Actuary?

1. Amounts ceded to the Ontario Risk Sharing Pool are accounted for under “Ceded unpaid claims and adjustment expenses.”
2. Amounts assumed from the Facility Association are accounted for under “Direct unpaid claims and adjustment expenses.”

A. 1 only  
B. 2 only  
C. 1 and 3 only  
D. 2 and 3 only  
E. 1, 2, and 3
15. For the Canadian branch of a foreign insurer, if the External Auditor's Report is not available at the time the Appointed Actuary (AA) is supposed to sign the opinion in the Appointed Actuary's Report (AAR), the AA's opinion should be:

A. unsigned until an opinion without qualification is received from the External Auditor.
B. signed with qualification, conditional upon receiving the External Auditor's Report.
C. signed with qualification, conditional upon receiving an unqualified opinion from the External Auditor.
D. signed without qualification and the AAR need not mention the status of the External Auditor's Report.
E. signed without qualification and the AAR should state that an opinion has not been received from the External Auditor.

16. Which of the following is not one of the primary objectives of the Office of the Superintendent of Financial Institutions Canada regarding the external peer review of the work of an Appointed Actuary of an insurance entity?

A. Narrow the range of practice by Appointed Actuaries.
B. Improve the quality of the Appointed Actuary's work.
C. Provide significant professional education for the Appointed Actuary.
D. Strengthen the public's confidence in the work of the Appointed Actuary.
E. Perform detailed recalculations to ensure accuracy of the Appointed Actuary's work.

CONTINUED ON NEXT PAGE
17. (1 point)

Briefly describe the two ways that the admonitory (i.e., deterrence) function of tort law operates.

18. (1.5 points)

a. (0.5 point)

Describe how the advent of liability insurance has removed some of the deterrence function of tort law in the motor vehicle accident area.

b. (1.0 point)

Briefly outline four counterarguments to the statement in part a. above. Include at least two tools used by insurance companies to ensure that the function of deterrence is still fulfilled with the presence of liability insurance.

19. (1.5 points)

Contrast the manner in which insured and insurer are bound by the principle of utmost good faith in an insurance contract.

20. (1 point)

Identify four conditions that must be satisfied for it to be permissible to insure the interest of another and collect the insurance when that interest is harmed.
21. (2 points)

Briefly explain how the case *Fletcher v. Manitoba Public Insurance Corporation* fulfills each of the following four functions of tort law:

- Compensation
- Education
- Market deterrence
- Ombudsman

22. (2.5 points)

Courts have been asked to intervene in disputes between insurers and insureds with regard to the interpretation of specific policy wording in order to determine whether or not coverage applies. When a phrase in the policy wording is ambiguous, the courts have used the following two theories to help resolve the issue: *contra proferentem* and “reasonable expectations”.

a. (0.25 point)

Generally describe what is meant by *contra proferentem*.

b. (0.5 point)

Explain why the application of *contra proferentem* usually results in a decision in favour of the insured.

c. (0.5 point)

How have some U.S. courts applied the theory of “reasonable expectations” in a manner that has exacerbated the lack of availability for liability insurance?

d. (1.25 points)

What five guidelines has the Supreme Court of Canada developed to resolve policy wording ambiguities that will help to avoid the problems experienced in some U.S. courts, as noted in part c. above?
23. (2.5 points)

Two theories have been developed for assessing damages in cases where a plaintiff’s injuries have been caused by the tortious acts of two or more defendants in separate incidents. Identify and describe those two approaches.

24. (1 point)

Different opinions exist as to the courts’ awarding of general damages in compromised baby cases. One view is that compromised baby cases represent the most catastrophic form of injury and should therefore attract the maximum amount of general damages allowable. What arguments can be made to suggest that the courts should not award any general damages, or should only award much reduced general damages for these cases?

25. (1.75 points)

a. (0.75 point)

Define the “non-delegable duty” doctrine.

b. (0.5 point)

Identify and describe the current issue with respect to the non-delegable duty doctrine as identified in the review of civil liability by the Ministry of Attorney General in British Columbia.

c. (0.5 point)

Identify and describe a potential solution to the issue identified in part b. above.

26. (1.5 points)

According to Baer and Rendall, “Cases on the Canadian Law of Insurance,” identify and describe three historical reasons that prompted legislative intervention in the insurance industry.

CONTINUED ON NEXT PAGE
27. (1.5 points)

Describe three ways in which insurance regulators can reduce the swing of the underwriting cycle.

28. (1 point)

Contrast the manner in which the Superintendent ensures that adequate assets are held in Canada for foreign insurance companies under the current Insurance Companies Act (1992) versus the former Act.

29. (1.5 points)

a. (0.5 point)

Based upon Baer and Rendall, “Cases on the Canadian Law of Insurance,” describe the two central issues of the court case Fletcher v. Manitoba Public Insurance Corporation.

b. (1 point)

Provide two facts supporting the decision rendered in Fletcher v. Manitoba Public Insurance Corporation.

30. (0.75 point)

Discuss one potential issue related to the duty to defend, and relate it to a given court decision in Canada.
31. (2.5 points)

Compare the Old Age Security retirement benefit to the Canada Pension Plan retirement benefit with respect to the following:

a. (0.5 point)

Financing

b. (0.5 point)

Age to qualify for collection

c. (0.5 point)

Universality

d. (0.5 point)

Taxation

e. (0.5 point)

Benefit level in relation to prior earnings

32. (1 point)

a. (0.5 point)

Contrast the Office of the Superintendent of Financial Institutions’ role in dealing with insurer insolvency versus the Property and Casualty Insurance Compensation Corporation’s (PACCIC) role.

b. (0.5 point)

CompCorp performs a role similar to PACCIC except that CompCorp is for life insurers in Canada. How does CompCorp’s treatment of insurer insolvency differ from that used by PACCIC?
33. (1.25 points)

Canadian no-fault insurance workers compensation systems are funded by assessments made on employers under either individual liability or collective liability. Contrast the application of the individual liability basis for assessments versus the collective liability basis for assessments.

34. (1 point)

Hamilton and Ferguson, “Personal Risk Management and Property-Liability Insurance,” describe four different mechanisms for providing residual market automobile insurance. Which of the four mechanisms most closely matches that of the Facility Association’s Risk Sharing Pool with respect to its operation. Justify your selection by identifying three common points.

35. (1 point)

According to the Office of the Superintendent of Financial Institutions, “Earthquake Exposure Sound Practices Guideline,” a company’s gross Probable Maximum Loss must not exceed the sum of what four financial resources on an ongoing basis?

36. (0.75 point)

Identify one action an insurer can take in each of the following scenarios in order to increase the insurability of the risk in question.

a. (0.25 point)

The potential insured has had a high claim frequency in the past.

b. (0.25 point)

The potential insured has had a policy canceled for non-payment of premium.

c. (0.25 point)

The potential insured owns a breed of dog that is known for attacking small animals and children.

CONTINUED ON NEXT PAGE
37. (1.5 points)

Describe three mechanisms used in Canada’s Agricultural Production Insurance program to control adverse selection by insured producers.

38. (3 points)

a. (1 point)

Based upon the Canadian Institute of Actuaries, “Submission to the Commission on the Future of Health Care in Canada,” describe the main reason why Medicare’s original scope made sense when it was created but is problematic today.

b. (2 points)

Describe the approach suggested by the Canadian Institute of Actuaries to making decisions about health care funding priorities. Include an explanation of the method suggested to determine whether a procedure should be publicly funded.

39. (1.5 points)

Identify and briefly describe three of the main drivers that are causing the continuing escalation of costs for private Extended Health Care Plans in Canada.

40. (0.75 point)

During the 2002 New Brunswick public hearings on automobile insurance, the theme addressed in many briefs was that “the insurance industry itself needs to undertake certain measures to make auto insurance more affordable, accessible, and fair for the people of New Brunswick.” Identify three measures that were suggested in the briefs that address this theme.
41. (2 points)

The Insurance Bureau of Canada (IBC), in its submission to Alberta Finance on the Automobile Insurance Consultation paper, held the position that Section B accident benefits for persons with catastrophic injuries should not be increased until certain issues are clearly understood. Describe the four issues that the IBC identified in its submission.

42. (1.5 points)

a. (0.75 point)

With respect to the A.M. Best Company’s “Best’s Key Rating Guide” rating procedures, identify three considerations for evaluating a company’s reinsurance program.

b. (0.75 point)

Describe three types of reinsurance commission clauses that are often part of a reinsurance contract.

43. (1 point)

Answer the following with respect to Dynamic Capital Adequacy Testing (DCAT) and the Minimum Capital Test (MCT).

a. (0.5 point)

Is it acceptable practice for the base scenario in a DCAT to assume a capital injection of over 10% of surplus? Explain your answer.

b. (0.5 point)

Is it acceptable practice for an Appointed Actuary to use an injection of capital in an adverse scenario in order to make an unacceptable MCT ratio acceptable? Company management has confirmed its intention to inject the capital should the adverse scenario occur. Explain your answer.
44. (2 points)

Given the following information for two monoline insurers, answer parts a. to c. Show all work.

<table>
<thead>
<tr>
<th>Information as at December 31, 2004</th>
<th>Company A</th>
<th>Company B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Unpaid Claims &amp; Adjustment Expenses</td>
<td>$400,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>PV* (Unpaid Claims &amp; Adjustment Expenses)</td>
<td>390,360</td>
<td>96,900</td>
</tr>
<tr>
<td>PfAD** Development</td>
<td>31,228</td>
<td>7,752</td>
</tr>
<tr>
<td>PfAD** Interest</td>
<td>923</td>
<td>923</td>
</tr>
</tbody>
</table>

* PV = Present Value
** PfAD = Provision for Adverse Deviation

- Both companies commenced operations on January 1, 2004.
- Neither company has any reinsurance.
- Both companies write the same type of business.
- All policies for both companies are written on January 1 for a one-year term.
- The unpaid claims for both companies will settle, on average, in the middle of 2005.
- There have been no major catastrophes that would result in unusual property losses.

a. (0.5 point)

Show the unpaid claims and adjustment expenses carried on the P&C-1 balance sheet for each company.

b. (0.5 point)

Based on the information given, compare the management of claims in the two companies.

c. (1 point)

Based on the information given, which company is more likely to have a mismatch in the duration of its assets and liabilities? Explain your answer.
45. (2 points)

The Dynamic Capital Adequacy Testing (DCAT) of a federally-regulated Canadian property and casualty insurer indicates the following surplus amounts under the base scenario and the four most adverse scenarios.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Surplus - Lowest in Forecast Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>$400,000,000</td>
</tr>
<tr>
<td>Frequency / Severity (Single Catastrophe)</td>
<td>250,000,000</td>
</tr>
<tr>
<td>Misestimation of Policy Liabilities (Unpaid Claims)</td>
<td>285,000,000</td>
</tr>
<tr>
<td>Frequency / Severity (Loss Ratio)</td>
<td>330,000,000</td>
</tr>
<tr>
<td>Premium Volume (Increase)</td>
<td>350,000,000</td>
</tr>
</tbody>
</table>

Minimum Capital Test (MCT) required capital in the forecast period is $175,000,000.

Based on the information above, answer the following. Show all work.

a. (0.5 point)
   Is the insurer’s financial condition satisfactory? Explain your answer.

b. (0.25 point)
   Under which scenario is the Office of the Superintendent of Financial Institutions most likely to intervene? Explain your answer.

c. (0.25 point)
   Identify a possible management response to the “Misestimation of Policy Liabilities (Unpaid Claims)” scenario.

d. (0.25 point)
   Identify a possible ripple effect for the “Premium Volume (Increase)” scenario.

e. (0.25 point)
   Under what circumstances is a detailed review of the Pricing Risk category not required?

f. (0.5 point)
   Based upon the results of the DCAT, what can be inferred about this company’s catastrophe reinsurance program?
46. (1.5 points)

Describe three advantages to management with respect to the discounting of actuarial liabilities.

47. (1.5 points)

The following information is available for a Canadian insurer as of December 31, 2004.

<table>
<thead>
<tr>
<th>Expected payments in 2005</th>
<th>$10 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected payments in 2006</td>
<td>$7 million</td>
</tr>
<tr>
<td>Expected payments in 2007</td>
<td>$5 million</td>
</tr>
<tr>
<td>Selected Discount rate</td>
<td>5% per annum</td>
</tr>
<tr>
<td>Interest rate margin</td>
<td>1% per annum</td>
</tr>
<tr>
<td>Margin for Claim Development</td>
<td>5%</td>
</tr>
</tbody>
</table>

Claim payments are assumed to be evenly distributed throughout the year.

Based on the information above, answer the following. Show all work.

a. (1 point)

Calculate the provision for adverse development on investment return rates.

b. (0.5 point)

Calculate the provision for adverse development on claims development.

48. (1 point)

The Appointed Actuary is required to report that the values he opines on are fairly presented in the financial statements. There may be unusual situations for which disclosure in the financial statements is required to ensure that the user of the financial statements is not misled. Identify four possible unusual situations for which disclosure in the financial statements is required.
49. (2 points)

The following information is available for a Canadian property and casualty insurer as of December 31, 2004.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and other investments</td>
<td>8,000</td>
</tr>
<tr>
<td>Gross Undiscounted Unpaid Claims and Expenses</td>
<td>5,000</td>
</tr>
<tr>
<td>Reinsurer’s Share of Undiscounted Unpaid Claims and Expenses</td>
<td>1,000</td>
</tr>
<tr>
<td>Gross Discounted Unpaid Claims and Expenses</td>
<td>4,500</td>
</tr>
<tr>
<td>Reinsurer’s Share of Discounted Unpaid Claims and Expenses</td>
<td>800</td>
</tr>
<tr>
<td>Unearned reinsurance commissions</td>
<td>500</td>
</tr>
<tr>
<td>Deferred Policy Acquisition Expenses</td>
<td>750</td>
</tr>
<tr>
<td>Gross Unearned Premiums</td>
<td>2,500</td>
</tr>
<tr>
<td>Net Unearned Premiums</td>
<td>500</td>
</tr>
<tr>
<td>Salvage and Subrogation Receivable</td>
<td>2,000</td>
</tr>
</tbody>
</table>

Based on the information above, calculate this insurer’s equity as of December 31, 2004. Show all work.

50. (1.75 points)

The following information is available for a Canadian property and casualty insurer.

<table>
<thead>
<tr>
<th>Accident Year</th>
<th>Paid Losses During 2004 ($000)</th>
<th>Discounted Claim Liabilities as of 12/31/2003 ($000)</th>
<th>Discounted Claim Liabilities as of 12/31/2004 ($000)</th>
<th>Investment Income in 2004 on Unpaid Claims ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>400</td>
<td>2,000</td>
<td>1,500</td>
<td>70</td>
</tr>
<tr>
<td>2002</td>
<td>600</td>
<td>3,000</td>
<td>2,000</td>
<td>?</td>
</tr>
<tr>
<td>2003</td>
<td>900</td>
<td>5,000</td>
<td>4,500</td>
<td>?</td>
</tr>
</tbody>
</table>

Assume that investment income on unpaid claims during a calendar year is calculated by the average of the discounted claim liabilities between the two evaluation points multiplied by a uniform discount rate (applicable to all accident years).

Based on the information above, calculate this insurer’s total excess / (deficiency) for the runoff of the discounted claim liabilities with respect to accident years 2003 and prior during calendar year 2004. Show all work.
51. (2 points)

The following asset information is available for a property and casualty insurer.

<table>
<thead>
<tr>
<th>Asset Held</th>
<th>Book / Amortized Value ($000)</th>
<th>Market Value ($000)</th>
<th>Encumbrances ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC Inc. Corporate Bond</td>
<td>1,200</td>
<td>1,000</td>
<td>not applicable</td>
</tr>
<tr>
<td>Real Estate for Investment</td>
<td>5,000</td>
<td>6,000</td>
<td>500</td>
</tr>
</tbody>
</table>

Based on the information above, answer the following. Show all work.

a. (0.5 point)

Show how these assets would be carried on the asset side of the statutory balance sheet if the insurer were a Canadian insurer filing the P&C-1 in Canada.

b. (0.5 point)

Show how these assets would be carried on the asset side of the statutory balance sheet if the insurer were an American insurer filing the annual statement in the U.S. and the bond were of medium quality.

c. (1 point)

Compare how the differences between book value and market value would be reflected in the statutory statements of a Canadian insurer filing in Canada and an American insurer filing in the U.S. given these assets.

52. (1 point)

An actuary’s valuation of claim liabilities includes a margin for adverse development. In the Minimum Capital Test, a margin is applied to the actuary’s valuation of claim liabilities.

a. (0.5 point)

Explain the rationale for including these two separate margins on claim liabilities.

b. (0.5 point)

Explain how the accounting treatment for these two margins differs in the P&C-1.
53. (5.5 points)

The accounting department of ABC Insurance Company completed the following draft financial information.

<table>
<thead>
<tr>
<th>Asset</th>
<th>Average Capital Required Factor</th>
<th>Book Value ($000)</th>
<th>Market Value ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>0.0%</td>
<td>3,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Bonds</td>
<td>6.0%</td>
<td>65,000</td>
<td>63,000</td>
</tr>
<tr>
<td>Real Estate for Investment Purposes</td>
<td>15.0%</td>
<td>10,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Receivables</td>
<td>0.2%</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Recoverable from Reinsurers:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registered - Unearned Premiums</td>
<td>0.5%</td>
<td>40,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Registered - Unpaid Claims</td>
<td>2.0%</td>
<td>45,000</td>
<td>45,000</td>
</tr>
<tr>
<td>Deferred Policy Acquisition Expenses (DPAE)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DPAE: Premium Taxes</td>
<td>0.0%</td>
<td>1,800</td>
<td>1,800</td>
</tr>
<tr>
<td>DPAE: Commissions</td>
<td>0.0%</td>
<td>6,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Other Assets: Intangibles</td>
<td>100.0%</td>
<td>2,200</td>
<td>2,200</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>178,000</td>
<td>181,000</td>
</tr>
</tbody>
</table>

Draft information for Page 20.20 (Liabilities)

| Amount ($000) | Unearned premiums | 60,000 |
| Unpaid Claims and Adjustment Expenses | 75,000 |
| Unearned commissions | 8,000 |
| Remainder of Liabilities | 12,000 |
| TOTAL Liabilities | 155,000 |

Draft information for Page 70.38 (Reinsurance Ceded to Unregistered Reinsurers)

| Amount ($000) |
| Premiums ceded to assuming insurer | 19,000 |
| Claims incurred by assuming insurer | 20,000 |
| Unearned premiums ceded to assuming insurer | 5,000 |
| Outstanding losses recoverable from assuming insurer | 25,000 |
| Receivable from assuming insurer | 0 |
| Payable to assuming insurer | 0 |
| Non-owned deposits held as security from assuming insurer | 30,000 |
| Letters of credit held as security from assuming insurer | 0 |

Other information:
- Capital required factor for unearned premium reserve is 8.0%.
- Capital required factor for unpaid claims liabilities is 9.0%.
- The company only cedes to one registered reinsurer and one unregistered reinsurer.

QUESTION 53 CONTINUED ON THE NEXT PAGE.

CONTINUED ON NEXT PAGE
Based on the information from the previous page, answer the following. Show all work.

a. (3 points)

Using the draft financial information, calculate ABC’s Minimum Capital Test (MCT) Ratio.

b. (0.5 point)

Briefly discuss ABC’s MCT result, as calculated in part a. above, with respect to the Office of the Superintendent of Financial Institutions’ (OSFI) supervisory MCT target.

c. (0.5 point)

The Appointed Actuary (AA) for ABC completes the year-end valuation of policy liabilities subsequent to the preparation of the above draft financial information. The AA’s valuation concludes that the gross claim liabilities should be $77,000 rather than the $75,000 estimated by the accounting department. The AA’s valuation on a ceded reinsurance basis is the same as the accounting department’s valuation. In addition, the AA’s estimate of the maximum allowable DPAE is $8,000. What is required of the AA in order to sign an unqualified expression of opinion?

d. (0.5 point)

Recalculate ABC’s MCT Ratio based on the AA’s estimate of policy liabilities.

e. (0.5 point)

ABC’s Chief Financial Officer (CFO) is concerned about the impact of the change in claim liabilities, but not about the impact of the maximum allowable DPAE. Explain why the CFO’s concern about the change in claim liabilities and lack of concern over the change in maximum allowable DPAE is understandable.

f. (0.5 point)

During the course of the year-end audit, ABC’s external auditor determines that the company’s estimate of the market value of bonds is not correct. The original estimate of $63,000 should be changed to $67,000. Recalculate the MCT Ratio from part d. above using this information.
54. (1 point)

The following asset information is available for a Canadian property and casualty insurer.

<table>
<thead>
<tr>
<th>Asset Held</th>
<th>Book Value ($000)</th>
<th>Market Value ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity A</td>
<td>100</td>
<td>120</td>
</tr>
<tr>
<td>Equity B</td>
<td>200</td>
<td>180</td>
</tr>
<tr>
<td>Real Estate C</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Real Estate D</td>
<td>60</td>
<td>70</td>
</tr>
<tr>
<td>Goodwill</td>
<td>10</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Based on the information above, calculate the “Capital Available” from these assets for the Minimum Capital Test. Show all work.

55. (3 points)
   a. (0.5 point)

   In the context of evaluating claim liabilities, define “fair value”.

   b. (0.5 point)

   Explain how claim liabilities at fair value are similar to claim liabilities valued by accepted actuarial practice.

   c. (0.5 point)

   Explain how claim liabilities at fair value differ from claim liabilities valued by accepted actuarial practice.

   d. (1 point)

   Briefly describe two situations in which fair value estimates and market prices may be in conflict.

   e. (0.5 point)

   Describe two practical issues insurers may face when implementing fair value reporting of claim liabilities.
56. (0.75 point)

An insurance company provides its Appointed Actuary with a book yield to maturity to be used as the discount rate for the policy liabilities. Identify three questions that the Appointed Actuary should ask of the insurer in order to decide whether or not to use this book yield as the discount rate for the policy liabilities.

57. (1 point)

Under the Canadian Institute of Actuaries, Consolidated Standards of Practice 1630 (i.e., CIA/CICA Joint Policy Statement,) the auditor and the actuary can both be the reporting professional and specialist professional.

a. (0.5 point)

Describe a situation where the actuary is the reporting professional while the auditor is the specialist professional.

b. (0.5 point)

Describe a situation where the auditor is the reporting professional while the actuary is the specialist professional.

58. (1 point)

Explain why it is impossible for an insurer to have non-zero values for both the “Deferred Policy Acquisition Expense” entry and the “Premium Deficiency” entry in the statutory financial statements for a Canadian property and casualty insurer.
59. (2 points)

A Canadian property and casualty insurer, with the following characteristics, requires a Dynamic Capital Adequacy Testing (DCAT) report.

- monoline commercial property insurer writing in all provinces
- investments in short term bonds only
- no reinsurance

According to the Canadian Institute of Actuaries, what changes would need to be made to the base scenario in its DCAT to evaluate the following adverse scenarios?

a. (0.5 point)

   Frequency and Severity – Single Catastrophe

b. (0.5 point)

   Inflation – A significant sustained increase in the rate of social inflation

c. (0.5 point)

   Premium Volume – A significant reduction in written premium volume

d. (0.5 point)

   Deterioration of Asset Values

60. (1.25 points)

As per instructions from the Office of the Superintendent of Financial Institutions, identify five situations that the Appointed Actuary’s Report should address with regard to potential problems or delays in the collection of reinsurance.

61. (1.25 points)

Based upon the Canadian Institute of Actuaries, “Educational Note: Review of Work of an Actuary,” identify five considerations that should be reviewed in a peer review of an Appointed Actuary’s report
62. (2.75 points)

a. (0.5 point)

A company may appoint its Chief Financial Officer, a fully qualified actuary, to serve as its Appointed Actuary. What two conditions must be met for this appointment to be legally acceptable?

b. (0.5 point)

Discuss the acceptability of a company appointing an internal actuary or former internal actuary as the external peer reviewer of its Appointed Actuary.

c. (0.25 point)

A company would prefer to hire one consultant to externally peer review the Dynamic Capital Adequacy Testing Report and a different consultant to externally peer review the Appointed Actuary's Valuation of Policy Liabilities Report. Comment on the acceptability of this practice.

d. (0.5 point)

Under what conditions is it acceptable for a company to use its external audit firm's actuary to conduct the peer review for the Valuation of Policy Liabilities Report?

e. (0.25 point)

When is the Appointed Actuary encouraged to seek a peer review for the Valuation of Policy Liabilities Report?

f. (0.5 point)

If the work is not reviewed within the period specified in part e. above, when might it also be possible to obtain the peer review, and under what conditions?

g. (0.25 point)

How often should the Valuation of Policy Liabilities Report of the Appointed Actuary be peer reviewed?
EXAM 7-CANADA, SPRING 2005
SECTION 1, QUESTIONS 1-16, MULTIPLE CHOICE QUESTIONS
PRELIMINARY ANSWER KEY
1.  B
2.  D
3.  D
4.  A
5.  E
6.  B
7.  D
8.  A
9.  B
10. E
11. E
12. C
13. C
14. B
15. C
16. E