INSTRUCTIONS TO CANDIDATES

1. This 100 point examination consists of 44 problem and essay questions.

2. 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, 7US, 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. 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.

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

4. All questions should be answered according to the United States statutory accounting practices and principles, unless specifically instructed otherwise. SAP refers to Statutory Accounting Principles, and GAAP refers to Generally Accepted Accounting Principles. NAIC refers to the National Association of Insurance Commissioners.

5. 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.

6. 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.

CONTINUE TO NEXT PAGE OF INSTRUCTIONS
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7. 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.

8. At the end of the examination, place 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 answer sheets will be graded.

9. 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.

   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.

10. 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.

11. 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
1. (1.75 points)

Pat is a passenger in an automobile owned and driven by Dale in a state that has a guest statute. The auto is involved in a collision and Pat sustains personal injury.

a. (0.5 point)

Assume Pat would be considered a “guest” under the statute. Contrast the legal standard that must be met in this state for Dale to be liable for Pat’s injuries with the legal standard under common law in a state without a guest statute.

b. (0.25 point)

Assume we do not know whether Pat would be considered a “guest” and assume Dale is found to be guilty of ordinary negligence. Under what circumstances would Dale’s liability for Pat’s injuries be the same as if the state did not have a guest statute?

c. (0.5 point)

Briefly describe two arguments in support of guest statutes.

d. (0.5 point)

Briefly describe two criticisms of guest statutes.
2. (2.25 points)

A company designs and manufactures push-mowers for sale at a local department store. Ed buys one of these mowers at the store.

The mower contains a safety device that requires the operator to engage a lever on the push-handle in order to start the mowing blades. While Ed is operating the mower with the blade engaged, he briefly walks backward. While walking backward, Ed stumbles over an exposed tree root and falls, pulling the mower onto his left foot. While he is falling, Ed releases the lever, disengaging the blades. However, the blades do not stop immediately, and his foot is injured by the moving blades.

Ed brings a product liability action against the manufacturer, alleging that the company is strictly liable for his injuries.

a. (0.75 point)

Identify three elements Ed must prove in order for a court to find the manufacturer strictly liable for a design defect.

b. (1 point)

Identify and describe two possible defenses the manufacturer might assert against Ed’s claim.

c. (0.5 point)

Assuming Ed’s arguments would be sufficient for success in his suit against the manufacturer, would the same arguments be sufficient for success if Ed were to allege strict liability against the department store instead? Explain your answer.
3. (1.5 points)

"The idea that the amount of litigation is spiraling out of control is simply not true. For example, the amount of tort litigation nationwide is growing slowly, at a rate not much above the rate of U.S. population growth."

Discuss the accuracy of the above statement with respect to each of the following types of litigation.

a. (0.5 point)
   Mass latent injury litigation

b. (0.5 point)
   Automobile accident litigation

c. (0.5 point)
   Other personal injury litigation (e.g., product liability and medical malpractice)

4. (2 points)

Contrast tort systems and no-fault systems with respect to the following items.

a. (0.5 point)
   Basis of compensation

b. (0.5 point)
   Claim administration costs

c. (0.5 point)
   Speed of payments to claimants

d. (0.5 point)
   Individual accountability

CONTINUED ON NEXT PAGE
5. (2 points)

Consider the following items:

- *U.S. v. South-Eastern Underwriters Association*
- McCarran-Ferguson Act
- *Paul v. Virginia*

   a. (0.5 point)

   Place the items in chronological order.

   b. (1.5 points)

   Identify one main outcome of each of the items and briefly describe the resulting impact on the regulation of insurance.

6. (1.5 points)

In the 1990s, the Insurance Services Office (ISO) converted from producing final rates to producing loss costs instead.

   a. (0.5 point)

   Describe how the actions of the NAIC set the stage for ISO to make that change.

   b. (0.5 point)

   Describe how the actions of the attorneys general of numerous states set the stage for ISO to make that change.

   c. (0.5 point)

   Describe how the actions of state and federal legislators set the stage for ISO to make that change.
7. (2 points)
   
   a. (0.5 point)

   Briefly describe a method that a regulator may use to verify hurricane computer models without divulging proprietary information of the model designers.

   b. (1 point)

   Identify and describe two reasons why, in a hurricane-prone state like Florida, a computer model may provide a more accurate estimate of expected hurricane losses than the traditional "excess wind" procedure.

   c. (0.5 point)

   One possible method to reduce the risk that an insurance company has manipulated a computer model is to require a legal affidavit from the insurer attesting that it has not manipulated the assumptions. Identify two other possible methods.

8. (2 points)

   Contrast the insurance industry with the manufacturing industry with regard to the following.

   a. (0.5 point)

   The relationship of price to the cost of goods sold

   b. (0.5 point)

   Opportunities for financial mismanagement

   c. (0.5 point)

   Impact of bankruptcies on consumers

   d. (0.5 point)

   Responsibility of regulators to consumers
9. (1.5 points)

The National Association of Insurance Commissioners (NAIC) examined redlining issues and concluded that availability and affordability problems exist in urban areas.

a. (0.5 point)

Identify two factors that the NAIC cited as causing these problems.

b. (1 point)

Briefly describe two ways in which actuaries can impact the redlining discussion.

10. (2 points)

Two goals of New York Insurance Law Article 23 are:

- to regulate insurance rates so they are not excessive, inadequate, or unfairly discriminatory; and
- to promote price competition.

a. (0.5 point)

Describe how these two goals conflict.

b. (1 point)

Describe how the law attempts to address both goals simultaneously.

c. (0.5 point)

Is reinsurance subject to this law? Explain why or why not.
11. (1.75 points)

A program of accreditation of state insurance departments was put into place by the NAIC in the 1990s.

a. (0.5 point)

Briefly describe this program.

b. (0.5 point)

Briefly describe the primary goals of this program.

c. (0.75 point)

Discuss how well this program has met the goals identified in part b. above.

12. (1.75 points)

Feldblum, "NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements" describes the development of RBC requirements as "a major advance in the solvency regulation of property/casualty insurance companies."

a. (0.5 point)

Briefly describe how the RBC formula may be considered a major advance over other measures used to assess insurer solvency.

b. (0.5 point)

Briefly describe how the RBC regulatory requirements may be considered a major advance over other regulatory approaches.

c. (0.75 point)

Identify three actions taken by the NAIC to ensure nationwide adoption of uniform RBC requirements.

CONTINUED ON NEXT PAGE
13. (2 points)

Insurance companies are subject to both federal and state regulation.

a. (1 point)

Describe two ways in which insurance companies are subject to federal regulation.

b. (1 point)

Other than rate regulation, describe two instances where insurance companies are subject to state regulation.

14. (2 points)

The case against regulating property and liability insurance rates through the use of an excess profits statute can be directed against the basic concept of an excess profits statute and how it is drafted and implemented.

a. (1 point)

Describe two disadvantages relating to the basic concept.

b. (1 point)

Describe two disadvantages relating to deficiencies and mistakes in drafting and implementing a statute.
15. (1.75 points)
   a. (0.5 point)
      Describe the Risk Based Capital (RBC) charge for investments in insurance affiliates
         for a parent insurance company that has a domestic insurance subsidiary.
   b. (0.75 point)
      Identify the RBC charge for investments in insurance affiliates for a parent insurance
      company that has an alien insurance subsidiary and explain the reasoning behind the
      prescribed formula.
   c. (0.5 point)
      Explain the reasoning behind the difference between the charges for domestic and
      alien subsidiaries.

16. (1.5 points)
    Changes in regulation of the surplus lines market may allow alien insurers to acquire
    some of the market share from foreign insurers.
   a. (0.5 point)
      Define the following:
      - Foreign Insurer
      - Alien Insurer
   b. (1 point)
      Compare and contrast the current regulatory standards for foreign surplus lines
      insurers and those for alien surplus lines insurers.
17. (3.5 points)

Two important concepts of market efficiency are Pareto efficiency and the Kaldor-Hicks criterion of "potential" Pareto efficiency.

a. (0.5 point)

Define these two terms.

b. (2 points)

Identify and define four basic types of rate filing laws for property and casualty lines.

c. (1 point)

Compare or contrast any two of the types of rate filing laws from part b. above with respect to optimizing potential Pareto efficiency.

18. (2 points)

The National Flood Insurance Program (NFIP) and Automobile Assigned Risk Plans are two programs introduced to insure risks that might otherwise have been uninsured in the voluntary insurance market.

a. (1 point)

Describe two similarities between these two programs.

b. (1 point)

Describe two differences between these two programs.
19. (2.5 points)

Guaranty funds were first introduced in the United States more than 25 years ago.

a. (0.5 point)
Identify two problems that guaranty funds are intended to address.

b. (1 point)
Identify and describe the reasons for two restrictions in the coverage provided by guaranty funds.

c. (1 point)
Have guaranty funds been a success or a failure in the United States? Provide two reasons to support your position.

20. (1.75 points)

The Essential Insurance Act (EIA) became effective in Michigan in 1981.

a. (0.5 point)
Identify two restrictions that the EIA imposed on auto insurance rates.

b. (0.5 point)
Discuss two goals that legislators were trying to accomplish with the EIA.

c. (0.75 point)
Describe how insurers who wrote primarily in low-risk areas could have responded to the EIA in order to circumvent the intent of the legislation.
21. (1 point)
   a. (0.5 point)
      Explain the major difference in financing between Medicare Part A and Medicare Part B.
   b. (0.5 point)
      Briefly explain the purpose of Medigap insurance.

22. (2 points)
   The Social Security program (OASDI) is not fully funded, meaning that the value of accumulated assets under the plan is not sufficient to discharge all liabilities for the benefits accrued to date.
   a. (1.5 points)
      Provide three arguments against the need to have a fully-funded OASDI program.
   b. (0.5 point)
      Explain why private pension plans should be fully funded.
23. (2.5 points)
   a. (0.5 point)
   Describe two ways in which excess assets in the Social Security program’s trust funds can be invested under current rules.
   
   b. (1 point)
   Briefly discuss two arguments in favor of changing the rules to expand the investment choices for the trust funds.
   
   c. (1 point)
   Briefly discuss two arguments against changing the rules to expand the investment choices for the trust funds.

24. (1.5 points)
   The calculation of the unemployment insurance tax rate is based upon a wage base lower than actual wages and includes, for an individual employer, an experience rating component based on actual unemployment experience.
   
   a. (0.5 point)
   Explain how the use of a wage base lower than actual wages can accentuate the impact of the economic cycle on employers.
   
   b. (1 point)
   Discuss two criticisms of the use of experience rating in determining an individual employer’s unemployment tax rate.
25. (2.25 points)

The Securities and Exchange Commission (SEC) sets forth financial reporting requirements for property-casualty insurance companies.

Based on SEC disclosure requirements, answer the following questions.

a. (0.75 point)

Identify three disclosure requirements related to loss contingencies associated with product and environmental liability.

b. (0.5 point)

Explain why these disclosures are important for evaluating an insurance company's financial health.

c. (1 point)

As directed by the Sarbanes-Oxley Act of 2002, describe the certification and disclosure requirements for principal officers.
26. (2 points)

Use the information below to answer the following questions. Assume no losses have yet been paid and all figures are with respect to Accident Year 2004 as of December 31, 2004. Show all work.

All values in millions.

Total loss on high-deductible policies, gross of deductible $50
Total deductible recoverable on high-deductible policies $20
Total collateral specifically held and identified on a per policy basis for deductible recoverable $10
Estimated amount of deductible recoverable anticipated to be uncollectible $1.5

a. (0.75 point)

Determine the liability for loss reserves that should appear on the balance sheet with respect to high-deductible policies.

b. (0.75 point)

Determine the amount of non-admitted asset that should be reflected on the balance sheet with respect to high-deductible policies.

c. (0.5 point)

How would the non-admitted asset in part b. above change if the insurer did not hold any collateral for deductible recoverable?
27. (2 points)

Use the information below to answer the following questions. Show all work.

All values in millions.

<table>
<thead>
<tr>
<th></th>
<th>Actual Cost</th>
<th>Market Value</th>
<th>Amortized Cost</th>
<th>Par Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Schedule D, Part 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Bonds: December 31, 2004</td>
<td>$15</td>
<td>$18</td>
<td>$13</td>
<td>$15</td>
</tr>
<tr>
<td>(Schedule DA, Part 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Bonds: December 31, 2004</td>
<td>$0.75</td>
<td>$0.9</td>
<td>$0.8</td>
<td>$0.7</td>
</tr>
</tbody>
</table>

These bonds are in good standing.
The company actively buys and sells bonds.

Other admitted assets $10
Loss and loss adjustment expense reserves $25
Undeclared policyholder dividends $5

a. (1 point)

Determine the company’s surplus as regards policyholders under SAP.

b. (1 point)

Determine the company’s surplus under GAAP.

28. (1.5 points)

a. (0.5 point)

Identify two ways in which the presentation of loss data in Schedule P differs from the presentation of data in the rest of the NAIC Property and Casualty Annual Statement.

b. (1 point)

Describe two ways these differences aid an actuary in evaluating an insurance entity.
29. (4.5 points)

The Appointed Actuary should review the three loss reserve adequacy IRIS tests and, if exceptional values occur, comment on the tests in the Statement of Actuarial Opinion.

Two of those tests are One-Year Reserve Development and Two-Year Reserve Development.

Use the data below to answer the following questions for the third loss reserve adequacy IRIS test, Estimated Current Reserve Deficiency. Show all work.

<table>
<thead>
<tr>
<th></th>
<th>2002 ($000)</th>
<th>2003 ($000)</th>
<th>2004 ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surplus, December 31, xxxx</td>
<td>150,000</td>
<td>160,000</td>
<td>250,000</td>
</tr>
<tr>
<td>Earned Premium, year-ending December 31, xxxx</td>
<td>170,000</td>
<td>200,000</td>
<td>350,000</td>
</tr>
<tr>
<td>Unpaid Loss Reserves</td>
<td>90,000</td>
<td>125,000</td>
<td>190,000</td>
</tr>
<tr>
<td>Unpaid LAE Reserves</td>
<td>25,000</td>
<td>50,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Unearned Premium Reserves</td>
<td>125,000</td>
<td>150,000</td>
<td>250,000</td>
</tr>
</tbody>
</table>

Result of One-Year Reserve Development as of December 31, 2004 18.125%

Result of Two-Year Reserve Development as of December 31, 2004 34.67%

a. (3 points)

Calculate the result of this test.

b. (0.5 point)

Determine the amount by which the company's surplus as of December 31, 2004 would need to be increased in order to avoid an exceptional value for this test.

c. (1 point)

For a company that has no financial difficulties, describe two circumstances that could cause an exceptional value for this test.

CONTINUED ON NEXT PAGE
30. (2.25 points)

Using the Schedule P triangle of exposure year earned premium shown below, answer the following questions. Show all work.

Schedule P – Part 6E – Commercial Multiple Peril
Section 1 – Cumulative Premiums Earned Direct and Assumed at Year End ($000 omitted)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior</td>
<td>30</td>
<td>20</td>
<td>15</td>
<td>15</td>
<td>11</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>1995</td>
<td>5.100</td>
<td>4.900</td>
<td>4.950</td>
<td>4.980</td>
<td>5.000</td>
<td>5.050</td>
<td>5.050</td>
<td>4.970</td>
<td>4.980</td>
<td>4.980</td>
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<td>1999</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>7.650</td>
<td>7.695</td>
<td>7.725</td>
<td>7.756</td>
<td>7.780</td>
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<td>2000</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>8.000</td>
<td>8.070</td>
<td>8.125</td>
<td>8.200</td>
<td>8.200</td>
</tr>
<tr>
<td>2001</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>8.425</td>
<td>8.500</td>
<td>8.600</td>
<td>8.650</td>
</tr>
<tr>
<td>2003</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>9.800</td>
<td>10.000</td>
</tr>
<tr>
<td>2004</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>10.100</td>
</tr>
</tbody>
</table>

a. (1 point)

Calculate the calendar year 2004 earned premium.

b. (0.25 point)

Determine the amount of the 2004 earned premium calculated in part a. above that relates to exposure periods prior to 2004.

c. (1 point)

Identify and describe two circumstances that could cause development of earned premium for an exposure year.

CONTINUED ON NEXT PAGE

18
31. (3 points)

Use the information below to calculate the investment gain on funds attributable to insurance transactions for medical malpractice. Show all work.

Assume the company writes only the lines of business shown.

All figures in millions of dollars (except percentages).

<table>
<thead>
<tr>
<th></th>
<th>Medical Malpractice</th>
<th></th>
<th>Workers Compensation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agents’ Balances, December 31, xxxx</td>
<td>35</td>
<td>50</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Premiums Earned</td>
<td>700</td>
<td>800</td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td>Premiums Written</td>
<td>720</td>
<td>830</td>
<td>260</td>
<td>310</td>
</tr>
<tr>
<td>Loss and LAE Reserves, December 31, xxxx</td>
<td>1,500</td>
<td>1,700</td>
<td>600</td>
<td>700</td>
</tr>
<tr>
<td>Unearned Premium Reserves, December 31, xxxx</td>
<td>100</td>
<td>130</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Commission and Brokerage</td>
<td>140</td>
<td>171</td>
<td>30</td>
<td>38</td>
</tr>
<tr>
<td>Taxes, Licenses &amp; Fees</td>
<td>21</td>
<td>24</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Other Acquisition</td>
<td>10</td>
<td>12</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>General Expenses</td>
<td>15</td>
<td>17</td>
<td>10</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>All lines</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surplus, December 31, xxxx</td>
<td>550</td>
<td>650</td>
</tr>
<tr>
<td>Net Investment Income earned</td>
<td>300</td>
<td>350</td>
</tr>
<tr>
<td>Net Realized Capital gains</td>
<td>75</td>
<td>80</td>
</tr>
<tr>
<td>Net Unrealized Capital gains</td>
<td>100</td>
<td>125</td>
</tr>
<tr>
<td>Investment Gain Ratio, 2004</td>
<td></td>
<td>14.5%</td>
</tr>
</tbody>
</table>

CONTINUED ON NEXT PAGE
32. (2.25 points)

a. (0.5 point)

Define retroactive reinsurance.

b. (0.25 point)

Identify the line on which retroactive reinsurance is reflected on the ceding company's Statement of Income page.

c. (1.5 points)

Identify the immediate effect of a retroactive reinsurance agreement on a ceding company's:

- Schedule F
- Loss Reserves
- Statutory Income
- GAAP Balance Sheet
- Risk Based Capital Adjusted Surplus
- Risk Based Capital Reserving Risk Charge
33. (3.25 points)

Using the information below, answer the following questions with respect to the Underwriting and Investment Exhibit (Statement of Income) of the 2004 Annual Statement. Show all work. All figures in thousands.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premiums earned</td>
<td>$300,000</td>
</tr>
<tr>
<td>Loss and loss expenses incurred</td>
<td>150,000</td>
</tr>
<tr>
<td>Net investment income earned</td>
<td>50,000</td>
</tr>
<tr>
<td>Net realized capital gains</td>
<td>10,000</td>
</tr>
<tr>
<td>Net unrealized capital gains as of December 31, 2003</td>
<td>30,000</td>
</tr>
<tr>
<td>Net unrealized capital gains as of December 31, 2004</td>
<td>50,000</td>
</tr>
<tr>
<td>Amounts recovered from agents’ balances charged off</td>
<td>25</td>
</tr>
<tr>
<td>Agents’ balances charged off</td>
<td>125</td>
</tr>
<tr>
<td>Dividends to policyholders</td>
<td>10,000</td>
</tr>
<tr>
<td>Dividends paid to stockholders (Cash Flow Exhibit line 16.5)</td>
<td>20,000</td>
</tr>
<tr>
<td>Federal and foreign income taxes incurred</td>
<td>30,000</td>
</tr>
<tr>
<td>Non-admitted assets as of December 31, 2003</td>
<td>700</td>
</tr>
<tr>
<td>Non-admitted assets as of December 31, 2004</td>
<td>1,200</td>
</tr>
<tr>
<td>Provision for reinsurance as of December 31, 2003</td>
<td>20,000</td>
</tr>
<tr>
<td>Provision for reinsurance as of December 31, 2004</td>
<td>22,000</td>
</tr>
<tr>
<td>Value of new company stock shares issued</td>
<td>50,000</td>
</tr>
<tr>
<td>Stock dividend resulting in a transfer from Surplus to Capital</td>
<td>10,000</td>
</tr>
</tbody>
</table>

a. (1.75 points)

Calculate net income.

b. (1.5 points)

Calculate the change in surplus.
34. (5.25 points)

Use the information below to answer the following questions. These are the only categories for which the company has a Risk Based Capital (RBC) charge. Show all work. All figures in thousands.

<table>
<thead>
<tr>
<th>Description</th>
<th>Total RBC Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingent liabilities</td>
<td>$1,000</td>
</tr>
<tr>
<td>Off Balance sheet risks</td>
<td>2,000</td>
</tr>
<tr>
<td>Bonds</td>
<td>10,000</td>
</tr>
<tr>
<td>Stocks</td>
<td>15,000</td>
</tr>
<tr>
<td>Reinsurance recoverables</td>
<td>4,000</td>
</tr>
<tr>
<td>Basic reserving risk charge</td>
<td>8,000</td>
</tr>
<tr>
<td>Growth charge for reserving risk</td>
<td>5,000</td>
</tr>
<tr>
<td>Basic premium risk charge</td>
<td>11,000</td>
</tr>
<tr>
<td>Growth charge for premium risk</td>
<td>3,000</td>
</tr>
<tr>
<td>Adjusted policyholder surplus</td>
<td>12,000</td>
</tr>
</tbody>
</table>

a. (3.25 points)

Calculate the company's RBC requirement. Show calculations for each risk charge category R₀ through R₅.

b. (1.5 points)

Based on the answer to part a. above, identify the RBC Action Level for this company and briefly describe the action required for both the company and the regulator.

c. (0.5 point)

If the company purchases a U.S. insurance subsidiary that has a total RBC charge of $10,000, what effect, if any, will this have on the company's RBC?
35. (3.25 points)

Use the information below to answer the following questions. Show all work.

The company writes only Private Passenger Automobile coverage

Schedule P – Part 2B – Private Passenger Auto Liability/Medical
Incurred Net Losses and Defense & Cost Containment Expenses Reported at Year End ($000 omitted)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>1995</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1996</td>
<td>xxx</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1997</td>
<td>xxx</td>
<td>xxx</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1998</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1999</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2000</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>150</td>
<td>156</td>
<td>155</td>
<td>154</td>
<td>155</td>
</tr>
<tr>
<td>2001</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>175</td>
<td>172</td>
<td>174</td>
<td>177</td>
</tr>
<tr>
<td>2002</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>200</td>
<td>220</td>
<td>225</td>
</tr>
<tr>
<td>2003</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>230</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td></td>
<td></td>
<td>260</td>
</tr>
</tbody>
</table>

Industry average adverse development factor  
Industry worst case year adverse development  
Implicit interest margin  
Company loss and LAE unpaid amount (Schedule P, Part 1) $500,000

a. (3 points)

Calculate the reserving risk charge.

b. (0.25 point)

Briefly describe what the reserving risk charge is designed to measure.
36. (3.25 points)

Differences between GAAP and SAP arise from their respective users and the objectives of the two accounting methods.

a. (1 point)

For each of the two accounting methods:

i. identify the principal user, and

ii. describe the main objective.

b. (2.25 points)

Identify one major difference between SAP and GAAP accounting for each of the following items and explain the reason for the difference. Use a different reason for each.

- Assets
- Expenses
- Reinsurance

37. (2 points)

Contrast GAAP with the fair value approach proposed by the International Accounting Standards Board with respect to the treatment of policy benefit liabilities in preparation of financial statements.
38. (1.75 points)

The Appointed Actuary for ABC Insurance Company has determined a range of reasonable estimates for the loss and loss adjustment expense reserves for the company as of December 31, 2003. The range is from $3.8 million to $4.2 million. The actuary believes that there is a significant risk that the reserve need is at the high end of the range.

ABC writes only Private Passenger Automobile insurance. The company booked a reserve of $4 million. The company's surplus (and Total Adjusted Capital) is $5.1 million. The Risk Based Capital Authorized Control Level for the company is $2.5 million.

a. (1.25 points)

Is there a risk of material adverse deviation in the booked reserve? Explain your answer and show all calculations.

b. (0.5 point)

Should this be discussed in the Statement of Actuarial Opinion? Explain your answer.
39. (2.25 points)

An insurance company writes insurance for automobile manufacturers and dealers. The following amounts were recorded in its 2004 Annual Statement.

<table>
<thead>
<tr>
<th></th>
<th>Loss Reserves</th>
<th>LAE Reserves</th>
<th>Unearned Premium Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct + Assumed</td>
<td>Net</td>
<td>Direct + Assumed</td>
</tr>
<tr>
<td>Asbestos</td>
<td>7,500</td>
<td>6,000</td>
<td>1,500</td>
</tr>
<tr>
<td>Environmental</td>
<td>10,000</td>
<td>9,000</td>
<td>3,000</td>
</tr>
<tr>
<td>All Other</td>
<td>575,000</td>
<td>500,000</td>
<td>125,000</td>
</tr>
<tr>
<td>Total</td>
<td>592,500</td>
<td>515,000</td>
<td>129,500</td>
</tr>
</tbody>
</table>

The company writes extended warranty policies on automobiles. All these policies have coverage periods of 13 months or longer. Included in the All Other reserves above is $5,000,000 in loss reserves and $1,300,000 in loss adjustment expense reserves related to extended warranty policies. In addition, the company has estimated its unearned premium reserve for extended warranties at $40,000,000 on a direct basis and $37,500,000 on a net basis (included in the unearned premium reserve above).

The asbestos and environmental reserves are related to policies written by the company prior to 1980.

a. (1.75 points)

Specifically identify the items and amounts to be included in the SCOPE paragraph of the Statement of Actuarial Opinion.

b. (0.5 point)

Specifically identify amounts required to be included elsewhere in the Statement of Actuarial Opinion.
40. (4 points)

Using the following information for an insurance company, compute the federal income tax due. Do not consider Adjusted Current Earnings in your response. Show all work.

All figures in millions (except percentages).

- Statutory Underwriting Profit: $(2)
- Taxable Investment Income: $3
- Tax-exempt Investment Income: $10
- Dividends Received: $5
- Realized Capital Gains: $2
- Unrealized Capital Gains: $4
- Unearned Premium Reserve
  - Beginning of Tax Year: $70
  - End of Tax Year: $75
- Loss and LAE Reserve
  - Beginning of Tax Year: $200
  - End of Tax Year: $225
- Average Reserve Discount Factor
  - Beginning of Tax Year: 85%
  - End of Tax Year: 87%
- Regular Tax Rate: 34%
- Alternative Minimum Tax Rate: 20%

The company owns less than 20% of the corporation that is distributing the dividends.
41. (2 points)

In some instances, an insurer may report certain liabilities for unpaid losses and unpaid loss adjustment expenses on a present value basis rather than a full value basis. In these cases, the Notes to the Financial Statement will include information regarding the relationship between the discounted and undiscounted reserve amounts.

Compare or contrast the Notes disclosure requirements for tabular and non-tabular discounts with respect to the following.

a. (0.5 point)
   The rate of discount

b. (0.5 point)
   The level of detail at which the amount of discount must be reported

c. (0.5 point)
   The total amount of discount reported in the financial statement

d. (0.5 point)
   For known claims, the determination of the time period over which the liability is discounted

42. (1.5 points)

Consider the following statement: "All reserves should be discounted under GAAP."

a. (0.5 point)
   Provide one argument in favor of this statement.

b. (0.5 point)
   Provide one argument against this statement.

c. (0.5 point)
   Describe the circumstances under which GAAP permits discounting of reserves.
43. (2.25 points)

Using the information below, calculate the appropriate amount of tabular discount for the accident year 2004 (AY2004) IBNR for workers compensation to be reported in the Notes to the Financial Statement.

Assume that the majority of permanent total cases for a given accident date are identified within five years. Assume that all figures are evaluated as of December 31, 2004. Show all work.

Number of unsettled AY2004 temporary total (TT) cases 15,000

Percent of all reported AY2004 claims which are TT 25%

Portion of open AY2004 TT claims expected to develop into permanent total (PT) cases 0.20%

Average undiscounted reserve on open AY2004 TT claims $10,000

Average undiscounted reserve on open AY2004 PT claims $425,000

Undiscounted reserve which should have been carried as of December 31, 1999 on currently open AY1999 PT claims $325,000

Average tabular discount which should have been reported as of December 31, 1999 on currently open AY1999 PT claims 18%

Workers compensation severity trend, per annum 4%

CONTINUED ON NEXT PAGE

29
44. (3.5 points)

The Annual Statement instructions require insurers, in certain instances, to disclose information related to structured settlements in the Notes to the Financial Statement.

a. (0.5 point)

Define structured settlements.

b. (1 point)

Describe two different approaches an insurer may use to establish a structured settlement.

c. (0.5 point)

For each approach described in part b. above, state whether the approach falls within the disclosure requirements for the Note on structured settlements.

d. (1.5 points)

For one approach described in part b. above, describe how the structured settlement would be reflected at the end of the year in which it is established in the insurer’s:

- Balance Sheet
- Income Statement
- Schedule P

END OF EXAMINATION

30