GI FREU Model Solutions
Fall 2023

1.

Learning Objectives:
1. The candidate will understand the elements of financial reporting for general insurance companies.

Learning Outcomes:
(1e) Understand and apply the concepts of reinsurance accounting.

Sources:
General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries
- Chapter 4 (Accounting for Reinsurance Contracts)

NAIC Statement of Statutory Accounting Principles,
- No. 62R, "Property and Casualty Reinsurance"

Commentary on Question:
This question tested a candidate's understanding of reinsurance accounting.

Solution:
(a) Describe the calculation steps for evaluating loss significance.

Commentary on Question:
The model solution is an example of a full credit solution.

- Calculate the present value of all cash flows between the ceding and assuming company under reasonably possibly outcomes.
- Compare this present value with the amounts paid to the reinsurer.
- A loss is reasonably possible if it is more than remote.

(b) An alternative condition will also permit the use of reinsurance accounting even when it is not reasonably possible for a reinsurer to realize a significant loss.

Describe this condition.

The reinsurer assumes substantially all the insurance risk relating to the underlying insurance contracts.

1. Continued

(c) Identify a type of reinsurance that uses the alternative condition from part (b) to permit the use of reinsurance accounting.

Commentary on Question:
The model solution is an example of a full credit solution.

Quota share reinsurance of a highly profitable line of business.

(d) Explain why a reinsurance contract that features accumulating retentions from multiple years could result in the contract not being accounted for as reinsurance.

This feature delays the timing of reimbursement to the ceding entity. Contractual features that delay timely reimbursement reduces the transfer of timing risk. This could prevent the condition of transfer of risk being met.

2. Learning Objectives:

1. The candidate will understand the elements of financial reporting for general insurance companies.

4. The candidate will be able to describe the current and historical regulatory environment.

Learning Outcomes:

(1e) Understand and apply the concepts of reinsurance accounting.

(4a) Describe the functions of key regulatory bodies in the U.S.

(4b) Describe and interpret the current state of general insurance regulation in the U.S. and its development.

Sources:

Insurance Regulation, The Institutes

- Chapter 3 (Federal and Other Influences on Insurance Regulation)

Understanding the New Financial Reform Legislation: The Dodd-Frank Wall Street Reform and Consumer Protection Act, Mayer Brown

Commentary on Question:

This question tested a candidate's knowledge of federal influences on the regulation of insurance in the United States.

Solution:

(a) Provide the following information regarding the case of *Paul v. Virginia*.

(i) Issue underlying the case

(ii) Ruling of the U.S. Supreme Court

(i) The underlying issue was that an insurance agent (Paul) was denied a license to sell foreign insurance in the state of Virginia because he would not deposit the bond required of foreign insurers selling insurance in the state. Paul ignored the ruling and sold these policies without a license in the state.

(ii) The ruling was that the insurance transaction was not interstate commerce because it is a contract delivered locally. As such, the state could continue to regulate the local insurance market without violating the U.S. Constitution.

2. Continued

(b) Explain why the McCarran-Ferguson Act of 1945 (MFA) was required to affirm the constitutionality of the state-based system.

In 1944, the U.S. Supreme Court determined, in a case involving the South-Eastern Underwriting Association, that insurance was commerce under the U.S. Constitution's Commerce Clause and was subject to federal regulation. However, it was deemed to be in the public interest to have state regulation of insurance, so the MFA was enacted to move insurance regulation back to the states.

(c) Describe the condition under which the FIO may preempt state measures of insurance regulation.

The FIO has the power to preempt state measures that are inconsistent with covered agreements, or otherwise result in less favorable treatment of insurers domiciled in foreign jurisdictions subject to covered agreements than the treatment accorded to admitted U.S. insurers.

(d) The FIO's power of preemption of state law is limited. It may not preempt state insurance laws governing certain functions of the business of insurance.

Identify four such functions included in the limitation.

Commentary on Question:
There are more than four functions. The model solution is an example of a full credit solution.

- premiums
- underwriting
- sales practices
- coverage requirements

(e) There are six preconditions required of the FIO prior to preempting a state law.

Identify two of these preconditions.

Commentary on Question:
The model solution is an example of a full credit solution showing two of the six preconditions.

- Issue a notice of potential inconsistency to the appropriate state regulator.
- Give interested parties an opportunity to comment.

3. Learning Objectives:

2. The candidate will understand the analysis of a general insurer's financial health through prescribed formulas, ratios and other solvency regulation methods.

Learning Outcomes:

(2a) Evaluate the financial health of a general insurer using information contained in the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 10 (Performance Measurement for General Insurers)

Commentary on Question:

This question tested a candidate's understanding of performance measurement for general insurance companies.

Solution:

(a) Describe three such factors.

Commentary on Question:

There are more than three factors. The model solution is an example of a full credit solution.

- Income taxes are levied on the legal entity, not the block of business.
- Income taxes may be computed in different ways (e.g., regular income tax versus alternative minimum income tax).
- Taxes include payments for past years' business, while expected taxes paid in future years that relate to business written in the current year should be accrued to current profit.

(b) Under U.S. statutory accounting, the use of operating income for retrospective performance measurement has two main drawbacks.

State these two drawbacks.

- There is a mismatch of underwriting income with investment income.
- Operating income mixes investment risks with underwriting risks.

(c) Explain why the allocation of equity by line of business for a general insurance company is often regarded as being arbitrary.

A general insurer's total equity supports the entire entity including all lines of business combined. There exists no single proper basis for an allocation. Many different methods exist that have both strengths and weaknesses.

3. Continued

(d) Insurers may use risk capital as a measure of equity in an ROE calculation as an alternative to using actual equity. There are several alternatives for risk capital that an insurer may use in an ROE calculation.

Identify two such alternatives.

Commentary on Question:
There are more than two alternatives. The model solution is an example of a full credit solution.

- Regulatory required capital based upon risk (e.g., NAIC RBC).
- Economic capital based upon an internal model of risk.

4. Learning Objectives:

3. The candidate will be able to apply the standards of practice regarding the responsibilities of the actuary as defined by regulators and the American Academy of Actuaries.

Learning Outcomes:

(3b) Describe, interpret and apply the responsibilities of the actuary with respect to the Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Commentary on Question:

This question tested a candidate's knowledge regarding the duties of the Appointed Actuary in the United States.

Solution:

(a) Describe what is to be included in this documentation.

- Brief biographical information
- Description of how the definition of "Qualified Actuary" is met or expected to be met for that year
- Description of the AA's responsible experience relevant to the subject of the SAO

(b) Provide the following for each of these three required letters (which you may refer to as the first, second and third letters).

(i) Purpose of each letter

(ii) Receiver of each letter

(iii) Timing of each letter

4. Continued

(i) Purpose

- The first letter is a notification of the replacement.
- The second letter states whether in the 24 months preceding the replacement, there were any disagreements with the former AA.
- The third letter is to request confirmation from the former AA that they are in agreement with the statement in the second letter. The response from the former AA is to be included with the second letter.

(ii) Receiver

- For the first and second letters it's the state insurance department.
- For the third letter it's the former AA.

(iii) Timing

- The first letter is sent within 5 business days of the replacement date.
- The second and third letters are sent within 10 business days of the date of the first letter.

(c) NAIC SAO Instructions require that two types of Schedule P data checks be performed. They are the Schedule P reconciliation performed by the AA and annual testing performed by the independent auditor.

Compare the purpose of these two Schedule P data checks.

- The AA data check is to show the user of the Actuarial Report that data significant to the analysis ties into the data in Schedule P.
- The auditor data check is to verify the completeness and accuracy of the data in Schedule P.

5. Learning Objectives:

1. The candidate will understand the elements of financial reporting for general insurance companies.

3. The candidate will be able to apply the standards of practice regarding the responsibilities of the actuary as defined by regulators and the American Academy of Actuaries.

Learning Outcomes:

(1b) Understand and compare different financial reporting standards for general insurers.

(1d) Complete and interpret selected pages/schedules in the NAIC Annual Statement as included in the resources.

(3a) Describe, interpret and apply the applicable Standards of Practice.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 6 (Schedule F, Statutory Credit for Reinsurance)

Commentary on Question:

This question tested a candidate's knowledge of reinsurance accounting, Schedule F, and estimates of amounts for uncollectible reinsurance.

Solution:

(a) Identify two other key functions of Schedule F.

Commentary on Question:

There are more than two key functions. The model solution is an example of a full credit solution.

- Provide supporting data regarding reinsurance arrangements.
- Restate the Annual Statement from a net of reinsurance basis to a gross of reinsurance basis.

(b) Explain why an insurance company might enter into a fronting arrangement.

Commentary on Question:

The model solution is an example of a full credit solution.

Fronting may be sought by insurers writing exposures that they deem to be too large or too risky for it, and by insurers writing business as a "front" for an insurer that is not licensed in its state.

5. **Continued**

(c) Explain why insurance regulators should be interested in a company using fronting arrangements.

Regulators monitor the insurer writing business in its state. However, under a fronting arrangement, they only monitor the fronting insurer, not the insurer taking on most of the insurance risk. For this reason, these arrangements require regulatory scrutiny.

(d) Some reinsurance contracts ceding more than 75% of direct premiums written are exempt from having an indicator of Special Code 2.

Identify two types of reinsurance contracts that are under this exemption.

Commentary on Question:
There are more than two types. The model solution is an example of a full credit solution.

- Affiliated transactions
- Involuntary market pools

(e) Different estimates for amounts of uncollectible reinsurance are found in the following:

I. Schedule F in U.S. statutory accounting
II. GAAP accounting
III. Statement of Actuarial Opinion (SAO).

Compare these three estimates of amounts for uncollectible reinsurance.

Commentary on Question:
The model solution is an example of a full credit solution.

All are prospective views on estimating the uncollectibility of recoverables from reinsurers. However, there are differences. In Schedule F, the estimate is an objective formula-based provision that is specified by statute and applies to all insurers. GAAP uses a subjective amount based on management's best estimate for expected uncollectible recoverables. In the SAO, the Appointed Actuary uses their own subjective amount to estimate expected uncollectible recoverables. The amount in the SAO may differ from the amount in GAAP accounting.

6. **Learning Objectives:**

4. The candidate will be able to describe the current and historical regulatory environment.

Learning Outcomes:

(4b) Describe and interpret the current state of general insurance regulation in the U.S. and its development.

Sources:

The Economic Crisis and Lessons from (and for) U.S. Insurance Regulation, NAIC Journal of Insurance Regulation, T. Vaughan

Commentary on Question:

This question tested a candidate's understanding of the possible reasons for regulatory failure.

Solution:

(a) Define each concept.

- Regulatory forbearance is the failure to take prompt and stringent action when facing a potentially troubled firm since intervention is not pleasant.
- Regulatory capture is a tendency for regulators to take on the mindset of an interest group rather than their regulatory role.

(b) Explain how the effectiveness of solvency regulation is diminished under each concept.

- Regulatory forbearance enables the financially weak insurer to take increased risks. This can further deteriorate the insurer's financial condition.
- Regulatory capture may result in a lowering of regulatory capital standards.

7. Learning Objectives:

1. The candidate will understand the elements of financial reporting for general insurance companies.

Learning Outcomes:

(1a) Understand and apply the concepts of insurance accounting.

(1b) Understand and compare different financial reporting standards for general insurers.

(1g) Demonstrate knowledge of taxation for general insurers in the U.S.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 5 (The Annual Statement, Nonadmitted Assets and Surplus)
- Chapter 15 (Federal Income Taxes for General Insurers)

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

Solution:

(a) Calculate the following under U.S. statutory accounting for each method (Method 1 and Method 2):

(i) Written premium for 2022

(ii) Earned premium for 2022

(iii) Unearned premium as of December 31, 2022

METHOD 1

(i) Written premium = 7,000
(ii) Estimated ultimate premium = 6,000 + 1,000 = 7000
Earned premium = 75% x 7,000 = 5,250
(ii) Unearned premium = 7,000 – 5,250 = 1,750

METHOD 2

(i) Written premium = 6,000
(ii) Earned premium = 5,250 (same under both methods)
(ii) Unearned premium = 6,000 – 5,250 = 750

7. **Continued**

(b) Calculate the following under U.S. statutory accounting for each method (Method 1 and Method 2):

(i) Written premium for 2023

(ii) Earned premium for 2023

METHOD 1
(i) Written premium = −500
(ii) Earned premium = 1,750 – 500 = 1,250

METHOD 2
(i) Written premium = 500
(ii) Earned premium = 1,250 (same under both methods)

(c) Provide the reason why Method 1 is required under U.S. tax accounting when recognizing audit premiums.

Tax accounting adjusts written premium, so it uses the method which directly adjusts written premium (Method 1) not earned premium.

(d) Describe the concept of *revenue offset* with respect to the calculation of premium revenue under U.S. tax accounting.

Revenue offset is the U.S. tax version of the GAAP deferred acquisition cost. Instead of using an insurer's estimate of its deferrable expenses, the revenue offset for taxes uses 20% of premium.

8. Learning Objectives:

1. The candidate will understand the elements of financial reporting for general insurance companies.

Learning Outcomes:

(1a) Understand and apply the concepts of insurance accounting.

(1d) Complete and interpret selected pages/schedules in the NAIC Annual Statement as included in the resources.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 9 (Insurance Expense Exhibit (IEE))

NAIC Annual Statement

Case Study, Fall 2023, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's ability to derive amounts from the IEE. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use.

Solution:

Calculate the following for R-Dan's 2022 IEE, corrected for the overstatement of agents' balances and subject to the information limitation noted above:

(i) Prepaid expense ratio underlying the 2022 IEE calculations for all lines combined total

(ii) Investment gain ratio for the 2022 IEE calculations

(iii) Investment gain on funds attributable to insurance transactions for all lines combined total

(iv) Investment gain attributable to capital and surplus for all lines combined total

8. Continued

Commentary on Question:
Candidates were expected to calculate these amounts using only information from the 2022 IEE and Annual Statement pages 2 to 4 as presented in the Case Study.

Dollar amounts are presented in thousands.

Avg = average of current year and prior year
AB = agents' balances, PHS = policyholders' surplus,
IG = investment gain, IA = investable assets,
LR = loss and loss adjustment expense reserves,
UPR = unearned premium reserve, WP = written premium

(i) Prepaid expense (PPE) ratio
PPE = Commission & Brokerage + Taxes, Licenses & Fees + Other Acquisitions, Field Supervision and Collection + (General Expenses Incurred / 2) = 81,500
WP = 607,700
PPE Ratio = 81,500 / 607,700 = 13.4%

(ii) IGR
IG = 33,000 + 600 = 33,600
IA = AvgLR + AvgUPR + AvgPHS – (ABcurr / 1.15 + ABprior / 1.1) / 2
= 627,049
IGR = 33,600 / 627,049 = 5.36%

(iii) IG on funds attributable to insurance transactions, total
$= \text{IGR} \times (\text{Avg LR} + \text{Avg UPR} \times (1 - \text{PPE Ratio}) - ((AB_{current} / 1.15 + AB_{prior} / 1.1) / 2))$
$= 0.0536 \times (269{,}200 + 194{,}200 \times 0.866 - 45{,}601)$
$= 20{,}992$

(iv) IG attributable to capital and surplus, total
= IG − IG on funds attributable to insurance transactions, total
= 33,600 – 20,992
=12,608

9. Learning Objectives:

1. The candidate will understand the elements of financial reporting for general insurance companies.

2. The candidate will understand the analysis of a general insurer's financial health through prescribed formulas, ratios and other solvency regulation methods.

Learning Outcomes:

(1d) Complete and interpret selected pages/schedules in the NAIC Annual Statement as included in the resources.

(2b) Understand and apply the elements of the NAIC RBC formula.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 12 (Solvency Monitoring)

NAIC Annual Statement

Case Study, Fall 2023, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's understanding of NAIC RBC. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use.

Solution:

(a) Complete the following table with respect to the NAIC RBC Ratio:

Action Level	**NAIC RBC Ratio Range**	**Action by Insurer**	**Action by Regulator**
No Action		No action required	No action required
Regulatory action level			
Mandatory control level			

9. Continued

Action Level	NAIC RBC Ratio Range	Action by Insurer	Action by Regulator
No Action	200% or more	No action required	No action required
Regulatory action level	At least 100% but below 150%	Submit a plan to the insurance commissioner of the domiciliary state. The plan must explain how the company will obtain capital or reduce operations/risk exposure to	No action required
Mandatory control level	Below 70%	As directed by the commissioner	The commissioner must rehabilitate or liquidate the company.

(b) Calculate the following amounts for R-Dan's 2022 NAIC RBC:

(i) Homeowners/Farmowners (H/F) basic reserving charge

(ii) R_4 risk charge before adjustment for credit risk

Commentary on Question:
AY = accident year, avg = average, dev = development, INCD = incurred, GWP = gross written premium, II = investment income, mdev = months of dev

Dollar amounts are presented in thousands.

(i) H/F basic reserving charge
Industry avg dev = 0.97
Co. avg dev = Current INCD(AY2013-22) / INCD@12mdev(AY2013-22)
= 0.966464
Co. adjustment factor = 0.966464 / 0.97 = 0.9964
Industry loss & LAE RBC % = 0.20
Co. adjusted loss & LAE RBC = 0.2 × (1 + 0.9964) × 0.5 = 0.19964
II factor = 0.95
Co. net loss & LAE reserves = 36,200
H/F basic reserving charge = ((1 + 0.19964) × 0.95 – 1) × 36,200 = 5,055

(ii) R_4 risk charge before adjustment for credit risk
Basic reserving charge = 33,621
Loss concentration factor = 0.7 + 0.3 × (248,300 / 288,800) = 0.9579
RBC before excess growth = 33,621 × 0.9579 = 32,207
3 yr GWP growth rate = 10.09%
Excess growth rate = 0.09%
Excess growth = 288,800 × 0.45 × 0.09% = 117
R_4 before credit adjustment = 32,207 + 117 = 32,324

9. **Continued**

(c) Calculate the following amounts for R-Dan's NAIC RBC:

(i) Total RBC after covariance and before basic operational risk

(ii) NAIC RBC Ratio

(iii) Range of policyholders surplus that would trigger *regulatory action level*

(i) Total RBC after covariance and before basic operational risk
$R_0 = 56$
$R_1 = 8{,}817$
$R_2 = 5{,}283$
R_3 (after adjustment) = 2,211
R_4 (after adjustment) = 32,324 + (3,761 – 2,211) = 33,874
$R_5 = 47{,}009$
$R_{cat} = ((3{,}500+0.048\times1{,}500)^2 + (24{,}000+0.048\times3{,}000)^2)^{0.5} = 24{,}407$

Total RBC after covariance and before basic operational risk
$= R_0 + (R_1^2 + R_2^2 + R_3^2 + R_4^2 + R_5^2 + R_{cat}^2)^{0.5} = 63{,}802$

(ii) NAIC RBC Ratio
= adjusted policyholders' surplus / 50% of RBC
= 209,400 / (0.5 × 1.03 × 63,802)
= 637.29%

(iii) Range of policyholders surplus that would trigger *regulatory action level*
RBC Ratio range to trigger *regulatory action level:* 100% to 150%

Range of policyholders surplus that would trigger *regulatory action level*
(100% to 150%) × (0.5 × 1.03 × 63,802)
= 32,857 to 49,286

10. Learning Objectives:

2. The candidate will understand the analysis of a general insurer's financial health through prescribed formulas, ratios and other solvency regulation methods.

3. The candidate will be able to apply the standards of practice regarding the responsibilities of the actuary as defined by regulators and the American Academy of Actuaries.

Learning Outcomes:

(2a) Evaluate the financial health of a general insurer using information contained in the Annual Statement.

(3b) Describe, interpret and apply the responsibilities of the actuary with respect to the Statement of Actuarial Opinion and the Actuarial Report.

(3d) Describe and apply the concept of materiality.

Sources:

Committee on Property and Liability Financial Reporting, A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves, American Academy of Actuaries

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 12 (Solvency Monitoring)
- Chapter 14 (The General Insurance Actuarial Opinion)

NAIC Annual Statement

Materiality, Concepts on Professionalism, American Academy of Actuaries Task Force on Materiality

Case Study, Fall 2023, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's understanding of materiality and the SAO. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use.

10. Continued

Solution:

(a) Explain how an Appointed Actuary could determine and present the SAO RMAD conclusion pertaining to gross reserves (direct plus assumed reserves).

Commentary on Question:
There are several different approaches that may be considered. Only one is included in the model solution. The model solution is an example of a full credit solution.

The materiality standard for gross reserves need not be the same as that for net reserves. It would be expected that the materiality standard for a gross reserves RMAD should be related to issues with gross reserves and be higher than that for net reserves.

The materiality standard and RMAD conclusion pertaining to gross reserves are not disclosed in SAO Exhibit B but should be disclosed in the SAO Relevant Comments section for RMAD when there are differences to the net.

(b) Critique the CFO's recommendation.

Commentary on Question:
Widely varying correct responses were possible. The model solution is an example of a full credit solution.

The actuary's materiality standard for RMAD in the SAO need not be equal to the external auditor's materiality standard. This is because these standards are used for different purposes. Additionally, the external auditor's materiality standard appears to be two wide at $28.9 million which is nearly 40% of the width of the range of reasonability for net reserves (i.e., 28.9 / (288.1 – 214.4) = 0.392). The actuary's materiality standard for RMAD in the SAO must be narrow compared to the width of the range of reasonability.

(c) Describe potential ramifications for R-Dan's SAO (current and future) if Sue Calvin had selected 5% of net premium earned as the materiality standard regarding RMAD.

Commentary on Question:
Widely varying correct responses were possible. The model solution is an example of a full credit solution.

10. Continued

The SAO would have technically not changed since R-Dan's booked reserves are at the low end of the range of reasonability and the booked amount plus $28.9 is still in the range of reasonability. However, it could set a precedence for future SAOs. This could lead to a mistaken conclusion on RMAD if the booked amount is above the mid-point of the range.

(d) Determine this materiality standard.

$20\% - 36.2/209.1 = 2.688\%$
$2.688\% \times 209.1 \text{ million} = 5.62 \text{ million}$

(e) Critique the materiality standard determined in part (d).

Commentary on Question:
The model solution is an example of a full credit solution.

This materiality standard for RMAD appears to be too low and would almost always indicate the existence of RMAD. Consider the fact that even if R-Dan booked reserves at 98% of the high end of the range of reasonability for reserves (i.e., 343.59 = .98 × 350.6), there would technically exist RMAD because the booked reserves plus the materiality standard (349.21 = 343.59 + 5.62) would be in the range of reasonability (283.6 to 350.6).

11. Learning Objectives:

4. The candidate will be able to describe the current and historical regulatory environment.

Learning Outcomes:

(4b) Describe and interpret the current state of general insurance regulation in the U.S. and its development.

Sources:

Insurance Regulation, The Institutes

- Chapter 11 (Solvency Regulation)
- Chapter 12 (Insolvency Regulation)

Commentary on Question:

This question tested a candidate's knowledge of insolvency regulation and some of the functions of the NAIC.

Solution:

(a) Define the following terms as they apply to insurance companies:

(i) Technical insolvency

(ii) Bankruptcy

(i) An insurer's inability to pay its bills when due.

(ii) When an insurer's liabilities exceed the market value of its assets.

(b) Provide the following:

(i) Definition of an NAIC association examination

(ii) Purpose of an NAIC association examination

(i) A single insurer solvency examination used when an insurer is licensed in more than three states in one zone or is licensed in more than one zone.
(ii) It avoids duplication of examinations by each state.

(c) Identify four other circumstances that could prompt a limited-scope examination.

Commentary on Question:

There are more than four other circumstances. The model solution is an example of a full credit solution.

11. **Continued**

- A follow-up from a prior examination report was indicated.
- There is a request from another Department of Insurance.
- There is a need for information that is required to examine another insurer.
- There is an unusually high volume of complaints against the insurer.

(d) Regulatory action may be required if policyholders or the general public could be harmed by an insurer's financial condition. One form of regulatory intervention specified by the NAIC is mandatory corrective action. Under mandatory corrective action, the insurance commissioner can order an insurer to take specific actions.

Identify four such actions.

Commentary on Question:
There are more than four such actions. The model solution is an example of a full credit solution.

- Reduce its general and commission expenses by specified methods.
- Increase its capital and surplus.
- Suspend or limit dividend payments to stockholders and/or policyholders.
- Document the adequacy of its premium rates.

12. Learning Objectives:

2. The candidate will understand the analysis of a general insurer's financial health through prescribed formulas, ratios and other solvency regulation methods.

Learning Outcomes:

(2d) Understand the development and principles of solvency regulation.

(2f) Demonstrate Knowledge of ORSA

Sources:

NAIC Own Risk and Solvency Assessment (ORSA) Guidance Manual

The U.S. National State-Based System of Insurance Regulation and the Solvency Modernization Initiative, NAIC White Paper

Commentary on Question:

This question tested a candidate's knowledge of several functions of the NAIC.

Solution:

(a) Describe how a state becomes NAIC accredited.

Commentary on Question:

The model solution is an example of a full credit solution.

The state must submit to a full-scope on-site accreditation review. It requires state adoption of model laws and regulations for solvency standards and monitoring. Teams of regulators can typically spend months on an insurer's premises to complete a full-scope examination.

(b) Describe the process identified in the NAIC White Paper for insurance regulators to carry out on-site risk-focused examinations.

Commentary on Question:

The model solution is an example of a full credit solution.

Every insurer is subject to an on-site risk-focused financial examination at least once every five years. The examination process is extensive and is conducted in accordance with NAIC regulatory guidance. It allows state insurance regulators to evaluate and assess the solvency of insurers as of the valuation date. It also allows state insurance regulators to develop a prospective view of an insurer's risks and risk management practices.

12. **Continued**

(c) In September 2012, the NAIC adopted the Risk Management and Own Risk and Solvency Assessment (ORSA) Model Act. This act requires insurers to follow the guidelines included in the NAIC ORSA Guidance Manual. Insurers are subject to the three primary requirements as defined in the NAIC ORSA guidance manual.

Describe these three primary requirements.

- Regularly conduct an ORSA to assess the adequacy of its risk management framework.
- Internally document the process and results of the assessment.
- Provide an ORSA summary report annually to the lead state commissioner if the insurer is a member of an insurance group, and on demand to the domiciliary state regulator.

13. Learning Objectives:

1. The candidate will understand the elements of financial reporting for general insurance companies.

Learning Outcomes:

(1c) Describe the elements of the NAIC Annual Statement.

(1d) Complete and interpret selected pages/schedules in the NAIC Annual Statement as included in the resources.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 7 (Schedule P, Statutory Loss Accounting)

Commentary on Question:

This question tested a candidate's knowledge of Annual Statement Schedule P.

Solution:

(a) Describe two potential issues that may limit the usefulness of this triangle for a trend analysis even when there is a sufficient volume of claims data to make inferences.

Commentary on Question:

There are more than two potential issues. The model solution is an example of a full credit solution.

- Amounts are on a net basis so they can be distorted by reinsurance.
- Schedule P lines of business are broad, exposures within this line may have changed over time.

(b) Explain the effect on a company's Schedule P Parts 2 to 5 if one of its reinsurers becomes insolvent and its reinsurance recoverables become uncollectible.

For claims reinsured by this reinsurer, claims recoverables on case reserves would be reduced to zero.

- Part 2 (Incurred loss and DCC) would increase by the recoverable reduction and would show as adverse development (in the calendar year that the recoverables were reduced).
- Part 3 (Paid loss and DCC), Part 4 (Bulk and IBNR) and Part 5 (Claim Counts) are not directly affected by this.

13. Continued

(c) Provide the following with respect to Schedule P Part 6:

(i) Description of what is included in this part

(ii) Purpose of this part

(iii) Two Schedule P lines of business that are included this part

Commentary on Question:
There are more than two lines of business included in Schedule P Part 6. The model solution for part (iii) is an example of a full credit solution with two lines of business.

(i) Development of earned premium by exposure year on both a direct and assumed basis (Section 1), and a ceded basis (Section 2).

(ii) Track premiums on business affected by exposure audits, retrospective rating adjustments, or accounting lags in booking premiums.

(iii) Workers' Compensation, Commercial Multiple Peril

14. Learning Objectives:

1. The candidate will understand the elements of financial reporting for general insurance companies.

Learning Outcomes:

(1a) Understand and apply the concepts of insurance accounting.

Sources:

NAIC Statement of Statutory Accounting Principles

- No. 53, "Property Casualty Contracts-Premiums"
- No. 55, "Unpaid Claims, Loss and Loss Adjustment Expenses"
- No. 62R, "Property and Casualty Reinsurance"

Commentary on Question:

This question tested a candidate's knowledge of several U.S. Statements of Statutory Accounting Principles.

Solution:

(a) Describe two methods that can be used for the computation of the unearned premium reserve as noted in SSAP No. 53, *Property Casualty Contracts-Premiums*.

1. Daily pro rata method: Calculate the unearned premium on each policy at the end of each period on each item of premium to ascertain the unexpired portion and to arrive at the aggregate unearned premium reserve.
2. Monthly pro rata method: This method assumes that, on average, the same amount of business is written each day of any month (so that the mean will be the middle of the month).

(b) Describe the circumstances under which an insurer should establish a premium deficiency reserve under SSAP No. 53.

When the anticipated losses, loss adjustment expenses, commissions and other acquisition costs, and maintenance costs exceed the recorded unearned premium reserve, and any future installment premiums on existing policies.

(c) Identify two examples of loss adjustment expenses under each of the following broad categories as defined in SSAP No. 55, *Unpaid Claims, Losses and Loss Adjustment Expenses*:

(i) Defense and Cost Containment (DCC)

(ii) Adjusting and Other (AO)

14. Continued

Commentary on Question:
There are more than two for each category. The model solution is an example of a full credit solution.

(i) DCC:
Surveillance expenses
Litigation management expenses

(ii) AO:
Fees and expenses of adjusters
Attorney fees incurred in the determination of coverage

(d) Describe the purpose of an *insolvency clause* as detailed in SSAP No. 62R, *Property and Casualty Reinsurance*.

It provides for the survival of the reinsurer's obligations in the event of insolvency of the ceding entity, without diminution because of the insolvency.