
CURATED PAST EXAM ITEMS

- Questions -

GI 201 – Operational, Financial, Regulatory and Legal

Important Information:

- These curated past exam items are intended to allow candidates to focus on past SOA fellowship assessments. These items are organized by topic and learning objective with relevant learning outcomes, source materials, and candidate commentary identified. We have included items that are relevant in the new course structure, and where feasible we have made updates to questions to make them relevant.
- Where an item applies to multiple learning objectives, it has been placed under each applicable learning objective.
- Candidate solutions other than those presented in this material, if appropriate for the context, could receive full marks. For interpretation items, solutions presented in these documents are not necessarily the only valid solutions.
- Learning Outcome Statements and supporting syllabus materials may have changed since each exam was administered. New assessment items are developed from the current Learning Outcome Statements and syllabus materials. The inclusion in these curated past exam questions of material that is no longer current does not bring such material into scope for current assessments.
- Thus, while we have made our best effort and conducted multiple reviews, alignment with the current system or choice of classification may not be perfect. Candidates with questions or ideas for improvement may reach out to education@soa.org. We expect to make updates annually.

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GIFREU, Fall 2020, Q3

GI 201 LO3

(5 points)

- (a) (1 point) Identify the four elements that any contract must include in order to be legally enforceable.

In addition to the four necessary elements of any legally enforceable contract, insurance contracts include certain special characteristics. One such characteristic is that they are contracts of indemnity.

- (b) (1 point) Identify four other special characteristics of an insurance contract.

One special characteristic of an insurance contract provides the basis for releasing an insurer from its obligations under the contract because of an insured's concealment or misrepresentation.

- (c) (1 point) Provide the following regarding this special characteristic:
- (i) Identify the special characteristic
 - (ii) Describe the special characteristic
- (d) (2 points) Describe what an insurer must establish in order for the insurer to be released from its obligations for each of the following acts by the insured:
- (i) Concealment
 - (ii) Misrepresentation

GIFREU, Fall 2020, Q14

GI 201 LO2

(4 points) The European Court of Justice (ECJ) banned the use of gender for all insurance policies in the European Union (EU) effective December 2012. The ECJ decision was justified on the grounds that discrimination based on gender is incompatible with the EU Charter of Fundamental Rights.

Explain whether or not each of the following insurer actions by an automobile insurer in the EU would be permitted:

- (i) Providing a rate discount to insureds employed in specific jobs, that are typically dominated by females in the workforce, in which those employed in those jobs show a significantly lower loss cost than the average.

ANSWER:

- (ii) Testing insureds for signs of hearing loss and surcharging policies where the insured shows signs of hearing loss for frequencies above 1,000 Hertz. Studies have shown that drivers with significant hearing loss have higher loss costs. Some audiological studies have shown that women have better hearing than men at frequencies above 3,000 Hertz.

ANSWER:

- (iii) Surcharging policies where the automobile has an engine with a power rating of over 250 horsepower. This is in addition to the vehicle rating factor. Studies have shown that high horsepower vehicles have a higher loss cost than low horsepower vehicles. Two-thirds of high horsepower vehicles are driven by men.

ANSWER:

- (iv) For a direct writer, direct marketing of policies to females only.

ANSWER:

- (v) For an insurer writing through brokers, increasing broker commissions for policies where the insured is female.

ANSWER:

GIFREU, Fall 2020, Q17

GI 201 LO7 Parts (c) and (d) are not on GI 201

~~(4 points)~~ International Standard of Actuarial Practice (ISAP) 1, *General Actuarial Practice*, states that an actuary should retain, for a reasonable period of time, sufficient documentation for purposes such as:

- peer review, regulatory review and audit;
- compliance with law; and
- assumption of any recurring assignment by another actuary.

- (a) ~~(1 point)~~ Explain what is meant by *sufficient documentation* in the context of ISAP 1.

ANSWER:

ISAP 1 provides examples of reasonable steps an actuary can take to validate the quality of data.

- (b) ~~(1 point)~~ Provide two examples of reasonable validation steps.

ANSWER:

~~The concept of materiality is important when considering data for an actuarial analysis. The American Academy of Actuaries' discussion paper on materiality references the 1992 case of SEC v. Price Waterhouse. The case relates to quantifying materiality in terms of a percentage range.~~

- ~~(c) — (0.5 points) Describe a conclusion from this case.~~

~~Not on GI 201~~

ANSWER:

~~The International Actuarial Association's paper titled *The Function of the Actuary in Prudential Supervision* describes the following two different capital analyses:~~

- ~~I. Dynamic Capital Adequacy (DCA)~~
- ~~II. Strategic Capital Adequacy (SCA)~~

- ~~(d) — (1.5 points) Compare these two types of capital analyses.~~

~~Not on GI 201~~

ANSWER:

GIFREU, Fall 2020, Q20

GI 201 LO3

(5 points)

- (a) (1.5 points) Define each of the following statutes regarding the filing of suits under tort law:
- (i) Statute of limitations
 - (ii) Statute of repose

The *natural conditions rule* is that a landowner is not liable for natural conditions on the land that cause injury either on or off the land.

- (b) (0.5 points) Provide one example in which the *natural conditions rule* for landowners might not necessarily apply.

At one time, courts applied the common-law principle of *contributory negligence* as a defense to negligence actions.

The following two concepts are related to *contributory negligence*:

- I. Last clear chance, and
 - II. Assumption-of-risk.
- (c) (1.5 points) Explain how each of these two concepts were used by the courts in cases of negligence.

Today, almost all jurisdictions have abandoned the common-law concept of *contributory negligence* in favor of the rule of *comparative negligence*. The specific rules for the application of *comparative negligence* vary by jurisdiction. There are four common variations of the rule that have been used. Two of these variations are the *49 percent rule* and the *50 percent rule*.

- (d) (0.5 points) Identify the two other common variations of the rule.

Three people, Jermaine, Keira and Levar, were all negligent in an accident. It was determined that they contributed to the accident as follows:

Party	JJ	KK	LLL
Degree of Fault	27.5%	27.5%	45.0%

The jurisdiction where the accident occurs follows the *49 percent rule* of comparative negligence. Assume that the plaintiff is JJ and the defendants are KK and LL. JJ's loss from the accident amounted to \$100,000 in total. JJ was successful in his suit against the defendants.

- (e) (1 point) State the amount that JJ will recover from each of the defendants.

GIFREU, Spring 2021, Q7

GI 201 LOS

(5 points)

- (a) (1 point) Identify two reinsurance characteristics that make its accounting complex for the primary insurer.

ANSWER:

- (b) (1.5 points) Describe the difference in claims reporting between assumed reinsurance and primary insurance in terms of each of the following:

- (i) Timing
- (ii) Lines of business
- (iii) Loss Adjustment Expenses (LAE)

ANSWER:

- (c) (2.5 points) Explain how each of the following reinsurance contract provisions shift underwriting risk back to the primary insurer.

- (i) Experience Refunds
- (ii) Cancellation Provisions
- (iii) Combination provisions
- (iv) Payment Schedules

ANSWER:

GIFREU, Spring 2021, Q8

GI 201 LO2

(5 points) The island country of Catlandia is exposed to floods, earthquakes, and hurricanes. Homeowners insurance policies in Catlandia were provided by private insurers and they did not include coverage for these risks.

The Catlandian government was concerned about this as it did not want its residents to rely on government disaster assistance after a natural catastrophe. It passed legislation making it mandatory for homeowners to insure their property with a standard homeowners' policy. Furthermore, it mandated that all insurers offering homeowners insurance policies in Catlandia must offer an optional natural catastrophe endorsement that includes coverage for losses from floods, earthquakes, and hurricanes.

After these measures were taken by the Catlandian government, some insurers left the market while those remaining in the market increased their rates significantly. To address these issues, the Catlandian government is considering several options.

Critique each of the following options being considered by the Catlandian government:

- (i) Form a government-owned insurance company offering homeowners insurance policies to all homeowners at a uniform actuarially indicated rate per 1,000 of total insured value. This policy would include coverage for losses from natural catastrophes. This insurance would be in competition with private insurance.
- (ii) Form a government-owned reinsurance company which would reinsure 100% of the optional natural catastrophe endorsement for all private insurance companies writing this coverage. Primary rates for the optional natural catastrophe endorsement are to be mandated by the government and set at a uniform actuarially indicated rate per 1,000 of total insured value.
- (iii) Form a government-owned reinsurance company providing aggregate excess catastrophe reinsurance to private insurers for homeowners coverage. The reinsurance rates would be at least 20% below market value reinsurance.

GIFREU, Spring 2021, Q14

GI 201 LO3

(6 points) In a majority of countries, the legal system falls into one of two major categories: the common-law system or the civil law system.

- (a) (1.5 points) Contrast these two legal systems with respect to the following:
- (i) Framework for legal decisions
 - (ii) Role of the judge

WXY is a successful and well-capitalized general insurance company domiciled in the United States. WXY's board of directors recently authorized the company's CEO to explore expanding operations internationally. The company is considering direct foreign investment by creating a wholly-owned foreign general insurance subsidiary in Country B. Country B has a civil law legal system.

- (b) (1.5 points) Describe three potential motivations for a company to operate internationally.

Operating internationally may result in additional financial risks.

- (c) (2 points) Describe four potential financial risks from operating internationally.
- (d) (1 point) Describe a concern with this investment, from the perspective of WXY's actuarial department, that does not relate to these additional financial risks.

GIFREU, Spring 2021, Q19

GI 201 LO2

(5 points)

- (a) (2 points) Describe four common characteristics of workers compensation (WC) programs found in most industrialized countries.

WC programs are often considered to be a form of social insurance.

- (b) (1 point) Describe two features of WC programs that make them an example of social insurance.

A perennial problem faced by many U.S. employers is that increases in employer-paid WC rates are sometimes excessive.

- (c) (2 points) Describe four factors that have been identified as generating (or potentially generating) upward pressure on WC rates in the United States.

GIFREU, Spring 2021, Q20

GI 201 LO3

(4 points) The asbestos mass tort has had a significant financial effect on the general insurance industry. One reason for this was the court's interpretation of which insurance coverage applied regarding liability for asbestos exposure.

- (a) (2 points) Explain how the court's interpretation of insurance coverage increased the cost to the insurance industry.

Johns-Manville Corporation (Manville) was the largest manufacturer of asbestos and supplier of products with asbestos in the United States. In 1982, Manville filed for Chapter 11 bankruptcy which included establishment of a trust fund to pay for claims from those harmed by asbestos.

Ordinarily, bankruptcy usually results in a resolution to a mass tort. However, this was not the case after Manville's bankruptcy.

- (b) (2 points) Explain why the Manville bankruptcy did not reduce asbestos litigation in the United States.

GIFREU, Fall 2021, Q1

GI 201 LO2

(5 points) Many governments in industrialized countries, despite the existence of a mature and well-functioning private insurance industry, produce and market certain insurance products directly to the public.

- (a) (1.5 points) Provide three reasons that have been given to justify the government producing and marketing certain insurance products directly rather than relying on the private insurance industry.

Once a government insurance program has been established, it must be evaluated periodically to ensure that it is functioning as intended.

- (b) (1 point) Provide two questions that should be considered in the evaluation of the effectiveness of government insurance programs.

Many insurance products provided by the government are considered to be social insurance programs.

- (c) (1.5 points) Describe three distinguishing characteristics of social insurance programs.

In addition to social insurance programs, governments in most industrialized countries also have a variety of social welfare programs.

- (d) (1 point) Provide two differences between social welfare programs and social insurance programs.

GIFREU, Fall 2021, Q3

GI 201 LO3

(5 *points*) Tort costs are often funded through liability insurance.

- (a) (0.5 *points*) Identify two direct costs of the tort system other than amounts paid to claimants.
- (b) (0.5 *points*) Identify two indirect costs of the tort system.

Tort reforms have been implemented in some jurisdictions as a means to control the costs of the tort system. Some types of tort reform affect procedural issues that can influence tort costs while other types of tort reform directly address amounts paid to claimants.

- (c) (1 *point*) Describe two types of tort reform that directly address the amounts paid to claimants.

Joint and several liability tort reform is an example of a type of tort reform affecting procedural issues. The goal of joint and several liability tort reform is to address the fairness of the tort system.

- (d) (1.5 *points*) Explain how enactment of joint and several liability tort reform addresses fairness.
- (e) (1.5 *points*) Explain how enactment of joint and several liability reform can indirectly control costs of the tort system.

GIFREU, Fall 2021, Q7

GI 201 LO2

(4 points) The European Court of Justice has banned the use of gender in pricing insurance products in the European Union.

- (a) (2 points) Provide arguments for or against this decision from the viewpoint of insurers.

ANSWER:

Many automobile insurers in the European Union have adopted usage-based-insurance (UBI) with telematics for the pricing of policies as a replacement for gender-based pricing of policies.

- (b) (2 points) Describe one advantage and one disadvantage of the UBI approach to pricing compared to gender-based pricing.

ANSWER:

GIFREU, Fall 2021, Q8

GI 201 LO5

(4 points) On January 1, 2020, a U.S. general insurer, TGIC, bought a bond at par with a par value of \$500 million and a 4% annual coupon rate paid semi-annually. The bond matures on December 31, 2023.

You are given the following information:

- The bond is of investment grade.
- A tax rate of 21% applies to TGIC's income.
- After-tax investment income is paid to TGIC's shareholders as it is received.

(a) (1.5 points) Provide TGIC's June 30, 2020 accounting entries under U.S. statutory accounting showing the following:

- (i) Credits and debits to balance sheet accounts
- (ii) Credits and debits to income statement accounts
- (iii) Direct charges and credits to surplus

ANSWER:

TGIC has classified this bond as *available for sale* for GAAP accounting purposes.

(b) (2.5 points) Compare the accounting treatment for a change in the value of this bond because of a rise in interest rates under the following accounting standards:

- (i) GAAP accounting
- (ii) U.S. statutory accounting

ANSWER:

GIFREU, Fall 2021, Q13

GI 201 LO2

(5 points) Some jurisdictions use a prior approval approach to rate regulation for some lines of business. One alternative to prior approval rate regulation is the flex rating approach.

- (a) (0.5 points) Describe the flex rating approach to rate regulation.

ANSWER:

- (b) (1 point) Describe two approaches to rate regulation other than prior approval and flex rating.

ANSWER:

- (c) (1.5 points) Compare the insurer regulatory compliance costs for the following three approaches to rate regulation: flex rating and the two approaches in your response to part (b).

ANSWER:

Some insurance regulators have introduced no-fault insurance as an alternative to the tort system for automobile insurance.

- (d) (0.5 points) Explain how at-fault drivers bear the consequences of their actions in a no-fault automobile insurance system.

ANSWER:

There are several variants to a no-fault insurance system.

- (e) (1.5 point) Compare a pure no-fault system to a modified no-fault system.

ANSWER:

GIFREU, Fall 2021, Q14

GI 201 LO3

(4 points) The issues of waiver and estoppel may arise when an insured sues for payment of damages under the policy and the insurer asserts a defense, such as fraud or misrepresentation by the insured. The insured may then argue that the insurer has forfeited the defense, or is prevented from asserting the defense, by the action of waiver or estoppel.

- (a) (0.5 point) Define waiver as it applies to an insurer.
- (b) (1 point) Define the parol evidence rule with respect to waivers.
- (c) (1 point) Describe the legal principle of estoppel.
- (d) (1.5 points) Describe the three events that need to take place for the principle of estoppel to apply under insurance law.

GIFREU, Fall 2021, Q15

GI 201 LO6

(4 points) Solvency II permits the use of either an internal capital model or the Solvency II standard formula approach for calculating the solvency capital requirement (SCR).

The Solvency II standard formula is the sum of the following three components:

- I. Basic solvency capital requirement (BSCR)
- II. Adjustment (ADJ)
- III. SCR for operational risk (SCR-OR)

- (a) (1.5 points) Describe the calculation of the BSCR component. You may provide this formulaically or in words.

ANSWER:

- (b) (1 point) Describe the purpose of the ADJ component.

ANSWER:

- (c) (1.5 points) Describe the calculation of the SCR-OR component. You may provide this formulaically or in words.

ANSWER:

GIFREU, Fall 2021, Q18

GI 201 LO3

(4 points)

(a) (1 point) Identify the benefit of a class action from the perspective of each of the following parties:

- (i) The plaintiffs
- (ii) The defendants

Federal Rules of Civil Procedure (FRCP) Rule 23 sets the rules for class actions in U.S. federal courts. FRCP Rule 23 notes four prerequisites that should be considered to determine if a class can be certified. One of these prerequisites is that of commonality.

(b) (0.5 points) Identify two other prerequisites of class certification from FRCP Rule 23.

The question of commonality was the focus of the Supreme Court of the United States in *Wal-Mart v. Dukes*. Prior to *Wal-Mart v. Dukes*, there was ambiguity and different interpretations of commonality used by various courts.

(c) (1 point) Describe the standard for commonality as decided in *Wal-Mart v. Dukes*.

(d) (1.5 points) Explain why the Supreme Court ruled against class certification in *Wal-Mart v. Dukes*.

GIFREU, Fall 2021, Q19

GI 201 LO6 *Note: This also applies to LO5*

(5 points) You are a consulting actuary and have accepted an assignment from U.S. general insurance company TFI to assist them in their discussions with a rating agency.

TFI submitted the results of its planning model to a rating agency. The planning model output is a set of pro forma Annual Statement schedules projected to the end of 2021.

You conferred with TFI's senior management and confirmed the following:

- TFI writes mostly fire and homeowners policies in the U.S. west coast region.
- TFI increased 2021 rates by 4%. This increase was included in the plan.
- Much of the territory that TFI writes in is significantly exposed to wildfire catastrophes. Even though the industry suffered significant wildfire losses, TFI did not incur significant wildfire losses in 2020. TFI has gained market share in 2021 from insurers that have exited the market.
- TFI relaxed its underwriting to permit writing over 25% of the homes in a community. Preliminary results for 2021 show that TFI's growth may exceed plan projections.
- Plan projections assumed that TFI's 2021 reinsurance cost would be the same as in 2020. However, actual reinsurance rates increased significantly in 2021. To offset this increase, TFI increased its net retention on catastrophes. However, this was not a full offset. The net premium to gross premium ratio for 2021 will be lower than that for 2020. TFI management believes that the company can withstand a catastrophe under the increased net retention.

You accompanied TFI senior management in the meeting with the rating agency on June 30, 2021. The lead rating analyst raised the following concerns with respect to the planning model:

- (i) TFI projects significant net written premium growth of 15%, all of which is in its current regional market. This will increase its exposure to wildfires.
- (ii) The projected net premium to gross premium ratio for 2021 is the same as the actual ratio for 2020 despite an increase in reinsurance costs.
- (iii) The net retention level for catastrophe occurrence coverage has increased over that of 2020.

Provide a response to address each of the rating analyst's three concerns.

ANSWER:

GIFREU, Fall 2021, Q21

GI 201 LO2

(4 points) There are many different types of Alternative Risk Transfer (ART) mechanisms. One of these is the formation of a captive insurer.

- (a) (0.5 points) Identify two ART mechanisms, other than captive insurance.

ANSWER:

There are many different types of captives that can be formed.

- (b) (1 point) Define the following types of captive insurers:

- (i) Pure captive
- (ii) Group captive

ANSWER:

One of the benefits of captive insurance is tax mitigation.

- (c) (1 point) Provide two reasons why the decision to form a captive should not be based solely upon the benefit of tax mitigation.

ANSWER:

- (d) (1.5 points) Describe three drawbacks to creating a captive insurance company that are unrelated to taxes.

ANSWER:

GIFREU, Spring 2022, Q4

GI 201 LO3

(4 points) The doctrine of *res ipsa loquitor* has been introduced in the courts for certain tort cases.

(a) (1 point) Explain this doctrine.

Application of this doctrine requires that three conditions are met.

(b) (1.5 points) Describe these three conditions.

(c) (1.5 points) Explain how the ruling by the New York State Court of Appeals in the case of *State v. Lourdes Hospital* expanded the use of this doctrine.

GIFREU, Spring 2022, Q5

GI 201 LO2 *Note: This also includes LO7*

(4 points) VK is the lead pricing actuary for a U.S. general insurance company (the Company) that writes homeowners insurance. VK is responsible for the development and filing of rates for the Company.

The Company purchased a new credit score model for use in its ratemaking. VK is familiar with the model. VK understands the components of the model, user input for the model and the model's output.

In validating the model, VK noted that the model output indicates that credit scores are correlated with occupation, gender and race. Correlation with occupation is high. Correlations with gender and race are not high but still statistically significant.

The Company currently has a discount for certain occupation classes that have had better claims experience.

Company management wants to use this model for its homeowners insurance business in a file-and-use state that requires certification of the rates by an actuary. The state has recently lifted its prohibition on the use of credit information for homeowners insurance rating and underwriting under certain circumstances.

Outline VK's considerations in reviewing this proposal and potential next steps.

ANSWER:

GIFREU, Spring 2022, Q7

GI 201 LO3

(4 points) The United Kingdom (UK) has experienced much lower liability costs from asbestos exposure than the United States. This is despite the UK having had greater use of asbestos and higher death rates from asbestos exposure compared to the United States.

- (a) (2 points) Explain why liability costs from asbestos exposure have been relatively much lower in the UK than in the United States.

The bankruptcy of numerous asbestos manufacturers and manufacturers of products that used asbestos in the United States was triggered by tort actions, coupled with the lack of comprehensive class action settlements. Through these bankruptcies, trust funds have been established to compensate injured parties.

- (b) (2 points) Describe the issues encountered by the asbestos trust funds in their attempt to compensate injured parties and reduce asbestos torts.

GIFREU, Spring 2022, Q13

GI 201 LO5

(5 *points*) Describe the difference between the interest method and the present value method for deposit accounting of reinsurance under U.S. GAAP in terms of the following:

- (i) (1 *point*) Cash flows/Income pattern used
- (ii) (1.5 *points*) Discount rate used
- (iii) (1.5 *points*) Amortization period of the deposit
- (iv) (1 *point*) Income presentation in the Annual Statement for changes in the deposit

ANSWER:

(a)

(b)

(c)

(d)

GIFREU, Spring 2022, Q15

GI 201 LO3

(5 points) An insurance contract includes special characteristics that distinguish the contract as an insurance contract. One of these is that an insurance contract is a *contract of adhesion*.

- (a) (1 point) Describe what is meant by *contract of adhesion*.
- (b) (1 point) Identify four other special characteristics included in most insurance contracts.
- (c) (1 point) Describe two of the four other special characteristics identified in part (b).

Statements on insurance applications are categorized as either representations or warranties. *False representation* makes a contract voidable.

- (d) (1.5 points) Identify the three elements required for an insurer to establish *false representation* by the insured.
- (e) (0.5 points) Describe what distinguishes *false representation* from *fraud*.

GIFREU, Spring 2022, Q19

GI 201 LO2

(6 points) Compare the level of government provision of insurance between the United States and Canada for the following lines of business:

- (i) Workers compensation
- (ii) Automobile insurance
- (iii) Homeowners insurance
- (iv) Agriculture insurance

GIFREU, Fall 2022, Q3

GI 201 LO3

(4 points)

- (a) (0.5 points) Explain how representations differ from warranties with respect to insurance contracts.

ANSWER:

- (b) (1.5 points) Describe the three elements that are required for an insurer to establish that a false representation by an insured has taken place.

ANSWER:

- (c) (1 point) Explain why insurers may prefer that courts interpret an insured's statements as warranties rather than representations.

ANSWER:

- (d) (1 point) Explain how courts have lessened the effects of an insured's statement being regarded as a warranty.

ANSWER:

GIFREU, Fall 2022, Q6

GI 201 LO3

(5 points)

- (a) (2 points) Describe four major shortcomings of a tort system that a no-fault insurance law attempts to rectify.

ANSWER:

- (b) (1.5 points) Describe three distinctive features of no-fault insurance.

ANSWER:

- (c) (1.5 points) Compare *pure* no-fault insurance to *modified* no-fault insurance.

ANSWER:

GIFREU, Fall 2022, Q8

GI 201 LO2

Parts (d) and (e) not in GI 201

~~(4 points)~~

- (a) (1.5 points) Provide three reasons as to why rapid premium growth has been identified as a frequent contributor to insurer insolvency.

ANSWER:

Guaranty funds are established to pay claims arising from insolvent insurer policies.

- (b) (0.5 points) Describe how guaranty funds can increase the amount of risk assumed by insurers.

ANSWER:

There exist two main methods for funding guaranty funds:

- Pre-funding by risk-based premiums charged to all insurers in a market.
- Funding post-insolvency by assessing the remaining solvent insurers.

- (c) (1 point) Compare the sufficiency of funding under these two methods.

ANSWER:

~~Under the NAIC Post-Assessment Property and Liability Insurance Guaranty Association Model Act, there are guaranty fund coverage limitations which apply in addition to the policy terms and conditions of the original insurance contracts. One of these limitations is the large net worth deductible.~~

- ~~(d) (0.5 points) Explain what prompted the NAIC to add this limitation to the Model Act.~~

Not in GI 201

ANSWER:

- ~~(e) (0.5 points) Explain the purpose of including this limitation in the Model Act.~~

Not in GI 201

ANSWER:

GIFREU, Fall 2022, Q15

GI 201 LO6

(4 points) Rating agencies provide two types of ratings: credit ratings for corporate, municipal and government bonds, and financial ratings for insurance companies.

- (a) (0.5 points) Identify two benefits of a credit rating from the perspective of investors.

ANSWER:

- (b) (0.5 points) Identify two benefits of a financial rating from the perspective of the insurance industry.

ANSWER:

- (c) (3 points) Explain why financial ratings are particularly important for the following:

- (i) Reinsurance contracts

ANSWER:

- (ii) Surety insurance contracts

ANSWER:

- (iii) Homeowners insurance contracts

ANSWER:

- (iv) Structured settlements

ANSWER:

GIFREU, Fall 2022, Q16

GI 201 LO3

(5 points)

- (a) (1 point) Explain how liability insurers are exposed to the cost of a punitive damages award.

ANSWER:

Punitive damages awards are only indicated for reprehensible conduct. The Supreme Court of the United States' decision in *BMW of North America v. Gore* outlined five factors for consideration to determine the reprehensibility of a defendant's conduct.

- (b) (1.5 points) State three of these five factors.

ANSWER:

The size of punitive damages awards was addressed by the Supreme Court in its decision in the case of *State Farm Mutual Automobile Insurance Co. v. Campbell*.

- (c) (1 point) Explain the guidance this decision provided regarding the size of punitive damages awards.

ANSWER:

The defendant's conduct on non-parties is an issue that has been brought forth by plaintiffs in cases involving punitive damages awards. The Supreme Court's decision in *Philip Morris USA v. Williams* addressed this issue.

- (d) (1.5 points) Explain how a defendant's conduct on non-parties may or may not be used based on this decision.

ANSWER:

GIFREU, Spring 2023, Q2

GI 201 LO6

(4 points) ABC Insurance is currently preparing for its annual interactive ratings meeting with a rating agency. One key role that insurance company actuaries play in rating agency meetings is ensuring that the information about the company is descriptive and complete.

- (a) (1 point) Identify three other key roles insurance company actuaries play in rating agency meetings.

ANSWER:

ABC Insurance is an automobile insurer but is looking to expand its book of business to other general insurance lines.

- (b) (0.5 points) Identify two types of insurance contracts where financial ratings are particularly important.

ANSWER:

- (c) (1.5 points) Describe how financial ratings are key considerations in the two types of insurance contracts identified in (b).

ANSWER:

- (d) (1 point) Identify four key qualitative attributes for which ABC management should be prepared to answer questions in this meeting.

ANSWER:

GIFREU, Fall 2023, Q3

GI 201 LO6

(4 points) Measurement of total income by line of business using an insurer's financial statement involves allocations of financial statement data. There are several factors that complicate the allocation of income tax to a line of business.

- (a) (1.5 points) Describe three such factors.

ANSWER:

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

- (b) (0.5 points) State these two drawbacks.

ANSWER:

Return on equity (ROE) is often used to measure performance of a line of business.

- (c) (1 point) Explain why the allocation of equity by line of business for a general insurance company is often regarded as being arbitrary.

ANSWER:

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.

- (d) (1 point) Identify two such alternatives.

ANSWER:

GIFREU, Spring 2024, Q1

GI 201 LO6

(6 points) Solvency II regulation is based upon the three-pillar system.

- (a) (2 points) Describe the purpose of each of the three pillars of Solvency II.

ANSWER:

Solvency II regulation includes two levels of capital requirements, the Solvency Capital Requirement (SCR) and the Minimum Capital Requirement (MCR).

- (b) (2.5 points) Describe the following for each of SCR and MCR:
- (i) The level of required capital
 - (ii) The regulatory response if actual capital falls below that level of required capital

ANSWER:

The International Association of Insurance Supervisors (IAIS) recommends that internal capital models must be clearly documented and pass three tests. One of these tests is the calibration test.

- (c) (1.5 points) Describe the two other IAIS recommended tests.

ANSWER:

GIFREU, Spring 2024, Q7

GI 201 LO5

(6 points)

- (a) (1.5 points) Describe how *declared status at purchase* (e.g., available for sale, hold to maturity) affects the carrying value of a bond under each of the following accounting systems:

- (i) International Financial Reporting Standards (IFRS)
- (ii) U.S. Statutory Accounting Principles (SAP)
- (iii) U.S. Generally Accepted Accounting Principles (GAAP)

ANSWER:

- (b) (1.5 points) Describe how *bond grade* (e.g., investment grade, below investment grade) affects the carrying value of a bond under each of the following accounting systems:

- (i) IFRS
- (ii) SAP
- (iii) GAAP

ANSWER:

- (c) (1.5 points) Describe how changes in the market value of *available-for-sale investment grade bonds*, stemming from interest rate changes, are reported under each of the following accounting systems:

- (i) IFRS
- (ii) SAP
- (iii) GAAP

ANSWER:

- (d) *(0.5 points)* Describe the economic condition that causes a bond's amortized cost to be greater than its fair value.

ANSWER:

- (e) *(1 point)* Describe how the following affects the income statement under SAP:
- (i) Decrease in market value for an impaired bond
 - (ii) Subsequent recovery of decrease in market value for an impaired bond

ANSWER:

GIFREU, Fall 2024, Q1

GI 201 LO5

(4 points) Two financial accounting systems used by general insurers, International Financial Reporting Standards (IFRS) and U.S. Statutory Accounting Principles (SAP), approach valuation of assets differently.

- (a) (2 points) Contrast attributes of the fair value versus the amortized cost of an asset.

ANSWER:

- (b) (1 point) Describe two conditions whereby debt securities may be held at amortized cost under IFRS.

ANSWER:

- (c) (1 point) Describe two conditions whereby the change in fair value of an asset may be treated as comprehensive income under IFRS

ANSWER:

GIFREU, Spring 2024, Q4

GI 201 LO7

(4 points)

- (a) (1 point) Describe the concept of materiality regarding actuarial work.

ANSWER:

- (b) (1 point) Explain why the selection of a materiality standard for an actuarial opinion should or should not be influenced by how close an insurer is to the minimum capital requirement.

ANSWER:

- (c) (1 point) Explain why the selection of a materiality standard for an actuarial opinion should or should not be influenced by the degree of uncertainty in the provision for insurance liabilities.

ANSWER:

You are responsible for opining on the reserves for an insurer and discover an error in the calculation in one of the development factors.

- (d) (1 point) Describe two considerations that could influence if this error is material.

ANSWER:

GIFREU, Fall 2024, Q13

GI 201 LO7 Parts (c) and (d) not in GI 201

~~(5 points)~~

- (a) *(1 point)* Compare the use of internal appointed actuaries (AAs) versus external AAs with respect to independence.

ANSWER:

The actuarial report supporting the AA's statement of actuarial opinion (SAO) has both primary and secondary intended users.

- (b) *(1 point)* Identify two each for the following:

- (i) Primary intended users
- (ii) Secondary intended users

ANSWER:

~~In the United States, premium reserves are generally outside the scope of the AA's SAO. However, they are within the scope of the AA's SAO for long duration contracts.~~

- ~~(c) *(1 point)* State the two conditions for a contract to be categorized as a long duration contract.~~

Not in GI 201

ANSWER:

~~If the AA issues a qualified SAO for a U.S. general insurer, four disclosures specific to a qualified opinion are required.~~

- ~~(d) *(2 points)* Describe these four required disclosures.~~

Not in GI 201

ANSWER:

GIADV, Fall 2020, Q2

GI 201 LO4

(4 points) You are using the Capital Asset Pricing Model (CAPM) to determine an underwriting profit margin.

You are given the following information about an insurer's homeowners line of business:

- The risk-free rate is 2%.
- The expected return on the market portfolio is 10%.
- The liability beta is -0.2 .
- The ratio of premium to owner's equity is 2 to 1.
- The tax rate on underwriting income is 30%.

The homeowners line of business has three distinct payment pattern groups:

Group	Percentage of the Insurer's Business	Average Time Between Receipt of Premium and Payment of Losses and Expenses
1	40%	0.9 years
2	35%	1.2 years
3	25%	1.5 years

The investment portfolio backing the homeowners line of business has the following characteristics:

Asset	Percentage of Total Assets	Tax Rate
Tax exempt bonds	20%	0%
Corporate dividend income stocks	30%	10%
Taxable bonds	50%	30%

Responses for all parts of this question are to be provided in the Excel spreadsheet.

- (0.5 points) Calculate the funds generating coefficient estimate, k .
- (0.5 points) Calculate the underwriting beta.
- (1.5 points) Calculate the underwriting profit margin ignoring taxes.
- (1.5 points) Calculate the underwriting profit margin using the version of CAPM that accounts for taxes.

GIADV, Spring 2021, Q2

GI 201 LO4

(4 points) Discounted cash flow analyses may use a net present value (NPV) approach or the internal rate of return (IRR) method. However, there is a problem that exists with the IRR method.

- (a) (1 point) Describe the problem with the IRR method.

ANSWER:

You are calculating the underwriting profit margin (UPM) for a one-year policy using the Risk Adjusted Discount Technique with the following assumptions:

- The premium will be collected at policy inception.
- Expenses of 24 will be paid as follows:
 - 35% paid six months before policy inception; and
 - 65% paid at policy inception.
- Losses are expected to be 120 and will be paid as follows:
 - 40% paid nine months after policy inception; and
 - 60% paid at policy expiration.
- The tax rate on all income is 25% and taxes will be paid at policy expiration.
- Equity of 90 supports the policy from policy inception to policy expiration.
- The risk-free rate is 3.4%.
- The risk-adjusted rate for losses is 0.6%.

- (b) (2.5 points) Calculate the premium for this policy.

Provide the response for this part in the Excel spreadsheet.

- (c) (0.5 points) Calculate the UPM for this policy.

Provide the response for this part in the Excel spreadsheet.

GIADV, Fall 2021, Q2

GI 201 LO4

(4 points) You are applying the Target Total Rate of Return model and are given the following information:

- The risk-free rate is 2%.
- The insurer's beta is 1.4.
- The market risk premium is 5%.
- Premiums are 900,000.
- Owner's equity is 500,000.
- Investable assets are 1,200,000.
- The insurer's investment return is 6%.

- (a) (1 point) Calculate the target total rate of return.

Provide the response for this part in the Excel spreadsheet.

- (b) (1.5 points) Calculate the underwriting profit margin.

Provide the response for this part in the Excel spreadsheet.

An alternative method to obtain the underwriting profit margin (UPM) is via Fairley's CAPM model. The formula is

$$UPM = -kR_f + \beta_u [E(R_m) - R_f].$$

- (c) (1.5 points) Identify three differences in how Fairley's model determines UPM compared to the Target Total Rate of Return model.

Provide the response for this part in the Excel spreadsheet.

GIADV, Spring 2022, Q2

GI 201 LO4

(4 points) You are calculating premiums and the underwriting profit margin (UPM) using the Risk Adjusted Discount Technique.

- (a) (0.5 points) Define “Risk Adjusted” in the context of the Risk Adjusted Discount Technique.

ANSWER:

You are given the following assumptions about a one-year policy:

- The premium (P) will be collected one month after policy inception.
- Expenses (E) of 24 will be paid at policy inception.
- Expected losses (L) are 120 and will be paid at policy expiration.
- The tax rate (t) on all income is 25% and taxes will be paid at policy expiration.
- Equity (S) of 90 supports the policy from inception to expiration.
- The risk-free rate is 4.2%.
- The risk-adjusted rate is 1.6%.

- (b) (1 point) State the discount rate (risk-free or risk-adjusted) that should be used with each cash flow.

ANSWER:

P:
E:
L:
S:

The equation for the premium is $PV(P) = PV(L) + PV(E) + PV(TUW) + PV(TII)$.

- (c) (1.5 points) Calculate each of these five values using a trial premium of 150.

Provide the response for this part in the Excel spreadsheet.

- (d) (0.5 points) Calculate the premium for this policy. (Note: Using Excel’s Goal Seek function is an acceptable approach.)

Provide the response for this part in the Excel spreadsheet.

- (e) (0.5 points) Calculate the UPM for this policy.

Provide the response for this part in the Excel spreadsheet.

GIADV, Fall 2022, Q2

GI 201 LO4

(4 points) You are determining the underwriting profit margin (UPM) using the Capital Asset Pricing Model (CAPM).

You are given the following assumptions about an insurer's line of business:

- The risk-free rate is 2%.
- The expected return on the market portfolio is 8%.
- The underwriting beta is 0.2.
- The tax rate on underwriting income is 25%.
- The ratio of premium to owner's equity is 2 to 1.

The line of business has three distinct payment pattern groups:

Group	Percentage of the Insurer's Business	Average Time Between Receipt of Premium and Payment of Losses and Expenses
1	50%	0.8 years
2	30%	1.1 years
3	20%	1.5 years

The investment portfolio backing the line of business has the following characteristics:

Asset	Percentage of Total Assets	Tax Rate
Tax exempt bonds	15%	0%
Corporate dividend income stocks	35%	10%
Taxable bonds	50%	25%

- (a) (1 point) Describe two methods for obtaining the underwriting beta.

ANSWER:

- (b) (0.5 points) Calculate the funds generating coefficient estimate, k .

Provide the response for this part in the Excel spreadsheet.

- (c) (1 point) Calculate the UPM ignoring taxes.

Provide the response for this part in the Excel spreadsheet.

- (d) (1.5 points) Calculate the UPM accounting for taxes.

Provide the response for this part in the Excel spreadsheet.