SOCIETY OF ACTUARIES
Financial and Regulatory Environment – U.S.

Exam GIFREU

AFTERNOON SESSION

Date: Thursday, April 30, 2015
Time: 1:30 p.m. – 3:45 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This afternoon session consists of 9 questions numbered 13 through 21 for a total of 40 points. The points for each question are indicated at the beginning of the question.

2. Failure to stop writing after time is called will result in the disqualification of your answers or further disciplinary action.

3. While every attempt is made to avoid defective questions, sometimes they do occur. If you believe a question is defective, the supervisor or proctor cannot give you any guidance beyond the instructions on the exam booklet.

Written-Answer Instructions

1. Write your candidate number at the top of each sheet. Your name must not appear.

2. Write on only one side of a sheet. Start each question on a fresh sheet. On each sheet, write the number of the question that you are answering. Do not answer more than one question on a single sheet.

3. The answer should be confined to the question as set.

4. When you are asked to calculate, show all your work including any applicable formulas.

5. When you finish, insert all your written-answer sheets into the Essay Answer Envelope. Be sure to hand in all your answer sheets because they cannot be accepted later. Seal the envelope and write your candidate number in the space provided on the outside of the envelope. Check the appropriate box to indicate morning or afternoon session for Exam GIFREU.

6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

13. (*5 points*) Many insurance companies use credit-based insurance scores in the underwriting process for both automobile and personal lines property insurance.

    (a)   (*1 point*) Define credit-based insurance score.

    (b)   (*1 point*) Compare credit-based insurance scores to traditional financial credit scores.

    (c)   (*1 point*) Identify two potential risks to consumers that may result from an insurance company's use of credit-based insurance scores.

    (d)   (*1 point*) Explain how adherence to the Insurance Bureau of Canada's *Code of Conduct for Insurers' use of Credit Information* should minimize each potential risk identified in part (c).

    (e)   (*1 point*) Explain how use of credit-based insurance scores in underwriting may result in unfair discrimination.

14. (*4 points*)

    (a)   (*2 points*) Describe how each of the following stakeholders benefits from insurance/reinsurance companies being financially rated by rating agencies:

        (i)   Insurance consumers

        (ii)   Insurance companies in general

        (iii)   Reinsurance companies in particular

Rating agencies work for and are paid by their clients (bond issuers for credit ratings of bonds and insurers for financial strength ratings).

    (b)   (*0.5 points*) Describe the conflict of interest that may result from such an arrangement.

    (c)   (*1.5 points*) Explain how the process used for rating insurers reduces the likelihood of such conflicts of interest being realized.

15. (*5 points*)

(a)   (*1 point*) Explain how class action lawsuits should increase the efficiency of the courts.

Concerns exist that class actions may not always increase the efficiency of the courts. As a result, some states have introduced class action reform legislation.

(b)   (*0.5 points*) Identify a type of class action reform that was enacted to move class actions back to their intended purpose of court efficiency.

(c)   (*0.5 points*) Describe how the class action reform identified in part (b) addresses court efficiency.

One of the four features a trial court must consider to certify a suit as a class action is commonality.

(d)   (*1 point*) Describe the commonality requirement for class action certification.

Wal-Mart Stores, Inc. v. Dukes had the potential to be one of the largest class action suits in U.S. history. The Supreme Court, in a split decision, ruled in this case that the commonality requirement was not met.

(e)   (*2 points*) Explain the reasoning of the Supreme Court's decision on the commonality requirement in *Wal-Mart Stores, Inc. v. Dukes*.

16. (*5 points*) Many jurisdictions have instituted variants of no-fault insurance for some lines of business.

    (a)   (*1 point*) Explain the system of compensation available to injured parties under a modified no-fault plan.

State X is currently using the tort system for automobile insurance with a use-and-file requirement for rates. Legislation has been proposed for the state that includes the following elements:

    A. Implements a modified no-fault plan;
    B. Bans the use of credit score, gender and age of driver for rating purposes;
    C. Requires usage-based insurance (UBI) telematics to be used for the rating factors distance driven and time of day driven;
    D. Bans the use of UBI telematics for any other rating factors or underwriting purposes;
    E. Mandates collection of detailed (i.e., by classification) loss and premium data from companies to be published annually on an aggregate industry basis;
    F. Mandates use of uniform base rates by territory and classification factors as published by the selected statistical rating agency in State X, for the first five years of the new plan;
    G. Allows deviations of up to 5% from the uniform base rate (up or down);
    H. Moves to a prior approval system of rate regulation after the first five years of the new plan; however, the selected statistical agency will still publish indicated base rates and classification factors; and
    I. The residual market, operated as a Joint Underwriting Association, will use the published uniform base rates and classification factors with the base rates increased by 5%.

    (b)   (*4 points*) Evaluate the proposed legislation giving consideration to:

        (i)   Potential violations of federal law;

        (ii)   Potential impact on the residual market population;

        (iii)   Potential issues for policyholders and/or producers; and

        (iv)   Potential issues for market stability and competition.

17. (*4 points*) Methods used to estimate the premium asset on retrospectively rated policies require policy year data.

(a)   (*0.5 points*) Identify where the development of policy year premium and loss data can be found in the 2013 NAIC Annual Statement.

You are given the following retro rating parameters:

Basic premium factor	0.25
Expected loss ratio	0.65
Loss conversion factor	1.20
Tax multiplier	1.02
Loss capping ratio at first retro adjustment	0.90
Expected percentage of loss emerged for the first retro adjustment	70%

(b)   (*1 point*) Show that the Premium Development to Loss Development (PDLD) ratio under the formula approach for the first retro adjustment is 1.662.

(c)   (*0.5 points*) Explain why the formula approach includes a loss capping ratio.

Given the following table of information:

Retro Adjustment	PDLD Ratio	% loss emerged
First	1.662	0.90
Second	0.350	0.08
Third	0.000	0.02

(d)   (*1.5 points*) Calculate the cumulative PDLD (i.e., CPDLD) ratios for the first and second retro adjustments.

(e)   (*0.5 points*) Estimate the premium asset on retrospectively rated policies for policy year 2011 as of December 31, 2013 using the information from part (d) and the amounts in the following table:

Policy Year	Expected Future Loss Emergence	Premiums Booked from Prior Adjustment	Premiums Booked as of 12/31/13	Completed Retro Adjustments as of 12/31/2013
2011	50,000	680,000	690,000	1

18. (*5 points*) The objective of U.S. statutory accounting is to address the concerns of insurance regulators that monitor insurer solvency whereas the objective of GAAP is to meet the needs of the different users of financial statements.

One of the concepts used to achieve the objective of U.S. statutory accounting is conservatism. One example of conservatism in the rules of U.S. statutory accounting is the use of the full value of unpaid losses (i.e., undiscounted loss reserves).

(a) (*1 point*) Describe two U.S. statutory accounting rules, other than full value reporting of unpaid losses, that use the concept of conservatism to achieve the statutory accounting objective.

(b) (*1 point*) Compare the two statutory accounting rules that you described in part (a) with the comparable rules under GAAP.

Statutory accounting permits the discounting of some unpaid loss amounts.

(c) (*1 point*) Describe the statutory accounting requirements for a loss reserve to be subject to tabular discounting.

(d) (*1 point*) Compare tabular and non-tabular discounting of loss reserves in statutory accounting with respect to:

(i) Loss adjustment expenses

(ii) Schedule P Part 4 reporting (i.e., bulk and IBNR loss reserves)

(e) (*1 point*) Identify items that must be reported in the Notes to Financial Statements if the rates used to discount the liabilities have changed since the prior annual statement.

19. (*4 points*) You are the Appointed Actuary for a liability insurer. Management does not provide you with any information regarding Adjusting and Other (AO) expenses. They assert that data for AO expenses is already included with the data for Defense and Cost Containment (DCC) expenses but provide no information that demonstrates this.

Describe how each of the following Actuarial Standards of Practice (ASOP) would guide you in your preparation of the Statement of Actuarial Opinion with respect to AO expenses:

(i)   ASOP No. 1, Introductory Actuarial Standard of Practice

(ii)   ASOP No. 36, Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves

(iii)   ASOP No. 41, Actuarial Communications

(iv)   ASOP No. 43, Property/Casualty Unpaid Claim Estimates

20. (*4 points*) ACME Manufacturing Corporation (ACME), which makes fireworks, established the U.S. captive insurer, Coyote Captive Insurance Company (CCIC), to insure its liability exposures. You are a consulting actuary for CCIC.

After one of ACME's trucks exploded, CCIC purchased two reinsurance treaties from Road Runner Re (RRR) with the following characteristics:

Treaty 1	The net reinsurance premium is $80 million, paid at the start of the current contract year, applying to all loss payments from the truck explosion.
Treaty 2	For a reinsurance premium of $1 million, RRR will pay $50 million excess of $20 million, per occurance, for all general liability losses during contract year 1.

With respect to the truck explosion, it is estimated that total loss payments will be $100 million and that they will likely be settled over the next five years.

ACME has a separate contract with RRR under which ACME will reimburse RRR for all reinsurance loss payments under Treaty 2 made by RRR to CCIC.

(a)   (*2 points*) Describe how you would determine the risk transfer requirement under the Financial Accounting Standards Board reporting standard 944-20-15 (i.e., Statement of Financial Accounting Standards 113 pre-codification) and Statement of Statutory Accounting Principles No. 62 for each reinsurance treaty.

(b)   (*2 points*) Recommend how CCIC should account for these reinsurance treaties under each of the following scenarios:

(i)   CCIC is a pure captive subject to GAAP.

(ii)   CCIC is a Risk Retention Group captive subject to U.S. statutory accounting.

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21. (*4 points*)

    (a)   (*3 points*) Evaluate the effectiveness of IRIS Ratio 3 (Change in Net Premiums Written) as a stand-alone test to assess the financial health of an insurer. Include in your evaluation:

        (i)   Significance of IRIS Ratio 3 abnormal values

        (ii)   A weakness of IRIS Ratio 3

        (iii)   Other IRIS ratios that can enhance IRIS Ratio 3's ability to assess the financial health of an insurer

    (b)   (*1 point*) Provide an example of two IRIS ratios that are not orthogonal to each other. Include an explanation of why they are not orthogonal.

END OF EXAMINATION
Afternoon Session

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