SOCIETY OF ACTUARIES
Group and Health – Company/Sponsor Perspective

Exam CSP-GH

AFTERNOON SESSION

Date: Friday, May 1, 2009
Time: 1:30 p.m. – 4:45 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This afternoon session consists of 11 questions numbered 12 through 22 for a total of 60 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 since 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 CSP-GH.

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

Tournez le cahier d'examen pour la version française.

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Printed in the U.S.A.

****BEGINNING OF EXAMINATION****
AFTERNOON SESSION

12. (*4 points*) You are a consultant for ABC, Inc. ABC is considering different funding arrangements and has asked you for advice. You are given the following information:

Annual claims for 1/1/08 – 12/31/08:	$1,228,200
Annual Premium for 1/1/08 – 12/31/08:	$1,380,000
ABC's Rate of Return on Assets:	8.0%
Third Party Administrator (TPA) crediting rate:	6.5%
Annual Medical Trend for 2008 and 2009:	12.5%

(a) Outline the advantages and disadvantages of self-funding.

(b) List administrative services that a TPA generally provides to self-funded groups.

(c) Calculate the savings that ABC can achieve for the 2009 plan year by entering into a 3-month deferred premium arrangement with a TPA. Show your work.

13. (*7 points*) You are the risk manager for Martha and George Insurance Company (MaGIC). MaGIC offers only group insurance. You are currently performing a Dynamic Financial Condition Analysis (DFCA) for MaGIC for 2010. One of the suggestions in the business plan is to reduce MaGIC's risk using reinsurance. Your CFO has received three reinsurance quotes.

You have been given the following information:

<u>MaGIC Financial Information</u>

		Actual 2008	**Projected Year End 2009**
Balance Sheet			
	Assets	$20,000,000	$20,000,000
	Liabilities	12,000,000	16,100,000
	Equity	8,000,000	3,900,000

		Projected Year End 2009
GAAP Income Statement		
	Revenue	$10,000,000
	Claims	8,000,000
	Admin	1,000,000
	Net Income	$1,000,000

<u>MaGIC's 2010 projected Claims Probability Table</u>

(a) Annual Frequency	(b) Total Annual Claim	(c) Annual Cost of Claim	(d) Probability Claims are Greater Than or Equal to Column 2	(e) Annual Cost of Claims Greater Than or Equal to Column 2
0.2262719	$0	$0.00	1.0000000	$2,306.13
…	…	…	…	…
0.0001217	190,000	23.13	0.0005229	167.24
0.0000841	200,000	16.83	0.0004011	144.11
0.0000580	250,000	14.50	0.0003170	127.28
0.0000825	300,000	24.75	0.0002590	112.78
0.0000907	350,000	31.74	0.0001765	88.03
0.0000384	500,000	19.20	0.0000858	56.29
0.0000441	750,000	33.09	0.0000474	37.09
0.0000008	1,000,000	0.82	0.0000033	4.00
0.0000025	1,300,000	3.19	0.0000025	3.19

13. Continued

MaGIC 2010 Projected Plan Information

Plan	Members Months	Premium	Claims	Admin
A	15,000	$220	$190	$20
B	16,000	230	200	22
C	17,000	260	220	25

Additional Assumptions

- Assume the tax rate is 0.0%
- Target 2010 ROE is equal to 2009 projected ROE

Reinsurance Quotes

	Attachment Point	**Premium per member per month**
Quote 1	$250,000	$11.00
Quote 2	$300,000	$9.00
Quote 3	$500,000	$5.00

(a) Discuss the general characteristics of Group Insurance products that need to be recognized in DFCA.

(b) Will MaGIC meet its 2010 ROE goal without purchasing reinsurance? Show your work.

(c) Based on achieving your target 2010 ROE, make a recommendation to your CFO on which reinsurance quote to choose, if any. Show your work.

14. (*9 points*) You are the valuation actuary for Filene Group Medical Carrier (FMC). Your new CFO wants to learn more about reserving.

(a) Explain considerations that should be made when developing a stochastic approach to modeling claim reserves.

(b) Discuss considerations regarding the quality of data to be used for claim reserving.

(c) As the actuary, list considerations in determining the nature and extent of your review of the data.

(d) Describe considerations in establishing claim reserves.

(e) FMC is considering offering a Consumer Directed Health Plan (CDHP) with a Health Savings Account (HSA) or Health Reimbursement Account (HRA). Discuss unique reserve considerations with respect to CDHP, HSA and HRA products.

15. (*4 points*) You are a consulting Actuary for the DG Corporation. Management would like to begin offering retiree health and pharmacy benefits. The VP of Marketing has suggested using their current active plan assumptions for the retiree benefits. You have been given the following:

Trend Assumptions

	Active Plan	
Medical Cost	**Trend**	**Plan Year 1 Percentage of total cost**
Facility	8.0%	40.0%
Physician	6.0%	40.0%
Pharmacy	12.0%	20.0%

Retiree Plan Assumptions:

Retiree Plan Year 1 Covered Total Cost per person:	$3,500
Deductible:	$500
Coinsurance:	85.0%
Member OOP Maximum (includes deductible):	$1,000

(a) Discuss the appropriateness of using the active plan trend assumptions for the retiree population.

(b) Illustrate and discuss benefit plan leveraging using the change through Year 3. Show your work.

16. (*9 points*) You are the risk manager for Mount Saint Helens Hospital (MSHH). MSHH is considering either joining another provider network or starting its own health insurance company.

(a) Discuss the elements of managed care risk MSHH faces.

(b) Discuss considerations MSHH should address before entering a contractual relationship.

(c) Describe the tools MSHH can use to control risks of joining a provider network.

(d) Discuss the expertise MSHH would need if they were to start its own health insurance company.

17. (*4 points*) You are a consulting actuary retained by the state Department of Insurance to review the 2007 & 2008 annual statements (NAIC health blank) of Resolvent Health Insurance Company. Resolvent Health writes a single product to one large account which covers major medical benefits for its employees. Your assignment is to examine the Premium Deficiency Reserves (PDR) held by Resolvent Health at 12/31/07 and 12/31/08, including a review of the company's actuarial practices, assumptions, and documentation.

The company's actuarial work papers project a breakeven operating result for 2009, followed by small gains in 2010 and forward.

You are given the following information:

PDR appearing on 12/31/07 statement	$9.4 million
Net Underwriting Gain on 12/31/08 statement	$2.7 million
Change in PDR appearing on 12/31/08 statement	($6.7 million)

(a) List sources of regulatory requirements, guidance, and practices applicable to PDRs that you may consult.

(b) Define Premium Deficiency Reserve and identify the key assumptions and considerations that you will look for in your examination.

(c) List exhibits on the company's annual statement that should be impacted by the PDR.

(d) Calculate the net underwriting gain or loss that should have been reported on the 12/31/08 annual statement. Show your work.

18. (*4 points*) You are analyzing the financial stability of Smith & Williams Company (S&W). You have the following information about S&W.

Shares:	7,280,000
Stock Price:	$19.17
Earnings Yield:	7.0%

Your minimum target Return on Assets (ROA) is 25%.

(a) Determine the level of assets that S&W would need in order to meet your ROA target. Show your work.

(b) Explain what the ROA indicates about a company and how the ROA can be improved.

(c) Discuss why it would be valuable to analyze the Gross Margin of S&W.

19. (*9 points*) You are an actuary for NAP, an auditing firm, reviewing the reserves and liabilities for YAWN Insurance Company. YAWN has the following blocks of business:

- An individual non-cancelable Long Term Disability (LTD) product in Canada that was started six months ago,
- A group LTD, yearly renewable product in the U.S. that has been in existence for over ten years,
- An individual non-cancelable LTD product in the U.S. that has been in existence for over ten years,
- A guaranteed renewable individual medical expense product in the U.S. that has been in existence for ten years.

(a) Describe the various types of reserves and liabilities that YAWN Insurance Company may need to hold.

(b) Recommend appropriate claim reserving methodologies for each block of business and explain your choices.

(c) Describe the actuarial considerations and standards of practice that you should address when developing these reserves.

20. (*3 points*) You are the Risk officer with Ginyard Insurance Company (GIC). GIC is currently using the "Risk Mitigation" method for Enterprise Risk Management (ERM). Your CEO has heard about a new approach to ERM, referred to as "Capturing Opportunities." Compare and contrast these two methodologies and discuss how the "Capturing Opportunities" method may add value.

21. (*4 points*) You are a consulting actuary and have been asked to complete an FAS 106 calculation for a client's retiree medical plan.

(a) Outline the components of the net periodic postretirement benefit costs that would be shown on your client's financial statement.

(b) Discuss considerations in setting the assumptions used for the calculation.

22. (*3 points*) You are an appointed actuary for Ellington Life, a Canadian life insurance company. You have been asked to explain Dynamic Capital Adequacy Testing (DCAT) to a new actuarial hire.

(a) Describe the main objectives of DCAT.

(b) Describe considerations in designing a model for DCAT.

****END OF EXAMINATION****
AFTERNOON SESSION