

# Exam GHFVCU

**Date:** Monday, November 2, 2020

## INSTRUCTIONS TO CANDIDATES

### General Instructions

1. This examination has 7 questions numbered 1 through 7 with a total of 60 points.

The points for each question are indicated at the beginning of the question.

2. 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 provided in this document.

### Written-Answer Instructions

1. Each question part or subpart should be answered either in the Word document or the Excel file as directed. Graders will only look at work in the indicated file.
  - a) In the Word document, answers should be entered in the box marked ANSWER. The box will expand as lines of text are added. There is no need to use special characters or subscripts (though they may be used). For example,  $\beta_1$  can be typed as beta\_1 (and ^ used to indicate a superscript).
  - b) In the Excel document formulas should be entered. Performing calculations on scratch paper or with a calculator and then entering the answer in the cell will not earn full credit. Formatting of cells or rounding is not required for credit.
  - c) Individual exams may provide additional directions that apply throughout the exam or to individual items.
2. The answer should be confined to the question as set.
3. The Word and Excel files that contain your answers must be uploaded before time expires.

*Recognized by the Canadian Institute of Actuaries.*

**1.** (5 points)

- (a) (1 point) Identify four potential problems that could exist in an unregulated insurance market.

ANSWER:

- (b) (3 points)

- (i) (1 point) List the four goals of insurance regulation.

ANSWER:

- (ii) (2 points) Identify and describe two relevant components of the Affordable Care Act (ACA) that help to achieve each of these goals.

ANSWER:

- (c) (1 point) List and describe two of the Actuarial Standards of Practice (ASOPs) relevant to actuaries preparing filings under the ACA.

ANSWER:

2. (13 points) You are a consulting actuary for Company X, tasked with the review of its retiree plan accounting.

- (a) (2 points) Explain how long term assumptions factor into the development of retiree benefit obligations.

ANSWER:

- (b) (2 points) Explain factors that can increase and/or decrease health care trend rates.

ANSWER:

The company's controller tells you that the Net Periodic Postretirement Benefit Cost (NPPBC) for 2019 was calculated to be \$1,357,000 using a 5% discount rate, but at year end you're made aware of errors in the assumptions originally used to develop the NPPBC and told the following:

- On average, total active service to retirement eligibility of 20 years was off by 1 year
- The annuity factor applied was off by 0.7%
- Discount rate used in the Interest Cost calculation was 30 basis points off
- There is no return on assets
- The amortization of unrecognized amounts is zero
- The accumulated postretirement benefit obligation is assumed to be correct
- Expected benefit payments are unchanged
- Standard retirement age is 65

- (c) (7 points)

- (i) (2 point) Describe the components of the NPPBC.

ANSWER:

- (ii) (5 points) Calculate the maximum impact of all known errors in the restatement of the Company X 2019 NPPBC. Show your work.

*The response for this part is to be provided in the Excel spreadsheet.*

## 2. Continued

The company Controller is concerned about the tax implications of its retiree plan funding.

- (d) *(1 point)* Identify characteristics of an ideal funding vehicle that specifically pertain to the Controller's concerns.

ANSWER:

- (e) *(1 point)* Recommend a funding vehicle with the characteristics identified in (d) above. Justify your answer.

ANSWER:

3. (9 points) You are the appointed actuary for Value-not-Cheap Insurance Company (VNC). You are given the following excerpts from VNC's 2019 financial planning proforma analysis:

All figures in \$'M	Commercial	Medicare	Medicaid
Revenue	100.0	25.0	11.0
Claims	87.0	21.0	10.0
Administrative Expenses	11.0	4.5	0.9

- (a) (2 points) Identify the considerations in determining the need for a premium deficiency reserve.

ANSWER:

VNC's Medicare block of business from the given data includes a block of guaranteed renewable Medicare Supplement business.

- (b) (1 point) Justify whether you have sufficient information to calculate a premium deficiency reserve on this block of business as of 12/31/2019.

ANSWER:

- (c) (3 points) With regards to the requirements of VNC as regulated by the National Association of Insurance Commissioners (NAIC)

- (i) (2 points) Describe the publicly available statutory financial reports that VNC is required to submit to the NAIC.

ANSWER:

- (ii) (1 point) Describe the confidential statutory financial reports that VNC is required to submit to the NAIC

ANSWER:

### 3. Continued

- (d) (3 points) Create a Statement of Actuarial Opinion to comment on VNC's premium deficiency reserve.

ANSWER:

**4.** (7 points) Describe key effects of Medicaid expansion under the Affordable Care Act as they pertain to:

(a) (2 points) Impact on coverage

ANSWER:

(b) (3 points) Access to care and related measures

ANSWER:

(c) (2 points) Economic measures

ANSWER:

**5.** (11 points) You are an actuary at Company ABC which exclusively sells individual health plans on the Affordable Care Act (ACA) Exchange marketplace.

(a) (2 points) For each of the following terms in the ACA:

- Actuarial Value
- Minimum Value
- Essential Health Benefits
- Non-Standard Plan Designs

(i) (1 point) Define the term

ANSWER:

(ii) (1 point) Explain the term's application to Company ABC

ANSWER:



## 5. Continued

The following information is provided for your Company ABC's individual health product portfolio, including its Cost Sharing Reduction (CSR) plans:

- All plans sold are on-Exchange
- Expected profit margin is 2.5% for all metal levels
- Assume 0% corporate income tax

Metal Levels	% of Federal Poverty Level	Actuarial Value	Expected Enrollment
Bronze	n/a	60%	15%
Silver	n/a	70%	10%
Silver - CSR	201-250%	73%	20%
Silver - CSR	151-200%	87%	25%
Silver - CSR	up to 150%	94%	25%
Gold	n/a	80%	5%

Metal Levels	Premium Rate PMPM
Bronze	\$ 200
Silver	\$ 300
Gold	\$ 360

A legal recommendation is issued by the Department of Justice, and it is determined that Cost Sharing Reduction subsidies have been discontinued.

Your state regulator notifies the company to allow for re-filing of the premium rates. Your supervisor suggests loading premium rates to account for lack of subsidy payments.

- (b) (4 points) Calculate premium loadings necessary under each of the options below. Show your work.

- (i) (2 points) Option 1: Load Silver plans only

*The response for this part is to be provided in the Excel spreadsheet.*

- (ii) (2 points) Option 2: Load all metal levels

*The response for this part is to be provided in the Excel spreadsheet.*

## 5. Continued

(c) (2 points)

- (i) (1 point) Identify alternative options Company ABC can use aside from premium loading

ANSWER:

- (ii) (1 point) Describe the pros and cons of each of the options in i).

ANSWER:

Company ABC chose Option 1 from part (b) above, and your proposed premium rates were filed and approved. A year later, actual membership enrollment data was reported as the following:

Metal Levels	% of Federal Poverty Level	Actual Enrollment
Bronze	n/a	18%
Silver	n/a	7%
Silver - CSR	201-250%	19%
Silver - CSR	151-200%	23%
Silver - CSR	up to 150%	26%
Gold	n/a	7%

- (d) (3 points) Calculate the financial impact of the actual enrollment to Company ABC's profitability. Show your work.

*The response for this part is to be provided in the Excel spreadsheet.*

6. (10 points) You are the appointed actuary for ABC Insurance Company (ABC).

(a) (1 point) List the three main concepts that have influenced the development of NAIC Statutory Accounting Principles guidance.

ANSWER:

(b) (3 points) Explain six distinct ways in which GAAP accounting differs from statutory accounting.

ANSWER:

You are given the following information about ABC:

*Table below also provided in Excel file*

*Paid Amounts (in Millions \$)*

		Paid Month																
		Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Total	
Incurred Month	Oct-18 and prior	\$11.2															\$17.2	
	Nov-18	\$2.3	\$5.6														\$12.8	
	Dec-18			\$7.8													\$14.7	
	Jan-19				\$6.2												\$12.5	
	Feb-19					\$8.9											\$14.7	
	Mar-19						\$2.9										\$12.8	
	Apr-19						\$5.9										\$12.3	
	May-19							\$6.2										\$13.9
	Jun-19								\$3.1	\$1.5	\$0.8	\$0.4	\$0.2	\$0.1	\$0.0	\$0.0		\$14.5
	Jul-19									\$7.0	\$3.5	\$1.7	\$0.9	\$0.4	\$0.2	\$0.1	\$0.1	\$15.5
	Aug-19										\$7.3	\$3.7	\$1.8	\$0.9	\$0.5	\$0.2	\$0.1	\$15.7
	Sep-19											\$7.9	\$3.9	\$2.0	\$1.0	\$0.5	\$0.2	\$13.6
	Oct-19												\$8.1	\$4.1	\$2.0	\$1.0	\$0.5	\$14.2
Nov-19													\$7.2	\$3.6	\$1.8	\$0.9	\$12.2	
Dec-19														\$8.1	\$4.1	\$4.1	\$8.4	

Unpaid claim liability as of 12/31/2018      \$13.8  
 Unpaid claim liability as of 12/31/2019 - prior years' services      \$0.3  
 Unpaid claim liability as of 12/31/2019 - current year services      \$15.2

(c) (1 point) Calculate ABC's claims expense for 2019 for annual GAAP reporting. Show your work.

*The response for this part is to be provided in the Excel spreadsheet.*

**6. Continued**

(d) (2 points) Justify whether a change in the following items would impact statutory income, statutory surplus, or both:

(i) (1 point) Prepaid Expense Assets

ANSWER:

(ii) (1 point) Claims Overpayment Receivables

ANSWER:

ABC offers major medical insurance in certain cities where it is able to keep costs low due to a narrow HMO network where providers are paid under a global capitation arrangement. In order to expand rapidly to new geographic areas, ABC is thinking of adding PPO providers into its network by paying them Fee-For-Service.

(e) (2 points) Critique the strategy of using Fee-For-Service providers to enhance a capitated provider network.

ANSWER:

(f) (1 point) Recommend an alternative strategy that can help ABC expand rapidly into new geographic areas. Justify your answer.

ANSWER:

**7.** (5 points) You are assisting the certifying actuary in data preparation in support of your company's Medicare Advantage bid submissions.

(a) (3 points) Explain potential areas of concern related to data quality that are internal to your company's claims adjudication process.

ANSWER:

(b) (2 points) Explain potential areas of concern related to data quality that are external to your company's claims adjudication process.

ANSWER:

**\*\*END OF EXAMINATION\*\***