

Exam GH 201-C

Date: Tuesday, March 24, 2026

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has 6 questions numbered 1 through 6 with a total of 50 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.

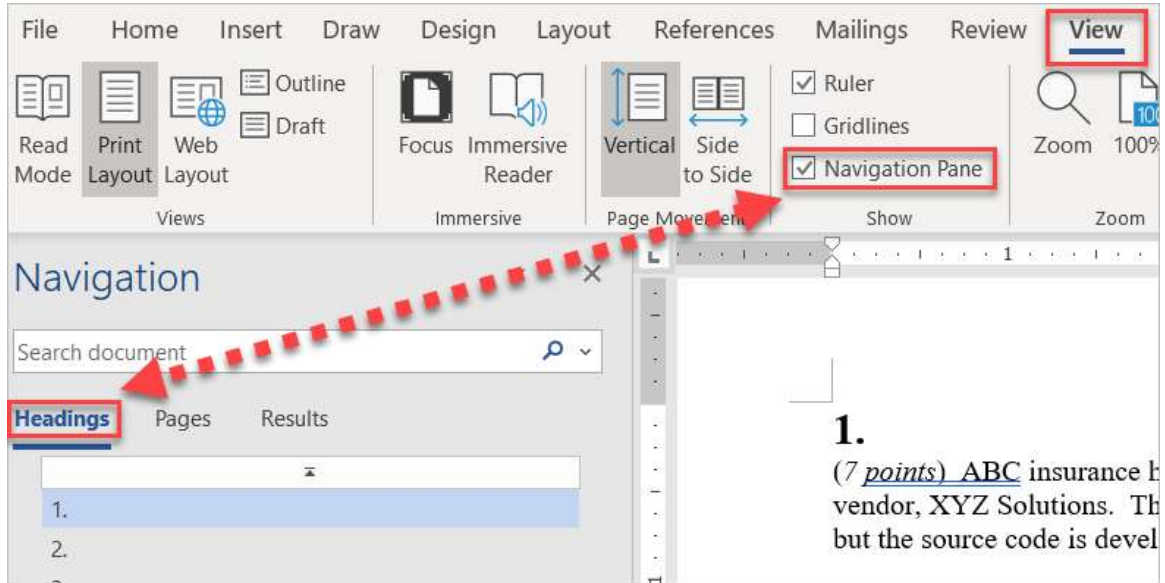
Written-Answer Instructions

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, β_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. Prior to uploading your Word and Excel files, each file should be saved and renamed with your unique candidate number in the filename.
4. The Word and Excel files that contain your answers must be uploaded before time expires.

Navigation Instructions

Open the Navigation Pane to jump to questions.

Press Ctrl+F, or click View > Navigation Pane:



*The Excel spreadsheet has
additional data and information applicable to this question*

1.

(9 points) You are a benefit consulting actuary for Company ABC (ABC).

- (a) (2 points) Describe four methods for estimating claim reserves.

ANSWER:

ABC provides a dental plan to its employees and has asked you to estimate their IBNR claims for the period from September 1, 20X2 to August 31, 20X3.

In the Excel spreadsheet, you have been provided with ABC's dental paid claims.

You used the Age-to-Ultimate Development method based on the average lag factors of the last 12-month period from September 1, 20X1 to August 31, 20X2 to calculate the IBNR.

- (b) (4 points) Calculate the dental IBNR as of August 31, 20X3. State any assumptions and show your work.

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

You recently had an accident and you are absent from work for an indeterminate period. Your colleague, who is also an actuary, will present your IBNR calculation to ABC on your behalf.

- (c) (1 point) Assess whether your colleague can take responsibility for your work, according to the section "1510 – Actuary's use of another person's work" of the Canadian Actuarial Standards of Practice (SoP). Justify your answer.

ANSWER:

1. Continued

Your colleague wants to present the results of your IBNR calculation in a formal report.

- (d) (2 points) List the items that should be included in an external user report, according to the Section “1710 – Reporting: external user report” of the Canadian SoP.

ANSWER:

*The Excel spreadsheet has
additional data and information applicable to this question*

2.

(7 points) You are a group valuation actuary at Ambitious Insurance Company (Ambitious). Ambitious is currently preparing for the year-end 20X1 and you have been tasked to prepare sensitivity analysis and disclosure statements for the individual insurance portfolio.

As part of the year-end process, the head of valuation has requested Financial Condition Testing (FCT) for Ambitious. One of the scenarios you are required to analyze is a solvency scenario.

- (a) (1 point) Describe considerations involved in setting a solvency scenario under FCT.

ANSWER:

You are performing FCT under the IFRS 17 framework and need to calculate the Contractual Service Margin (CSM) for the individual insurance portfolio.

In the Excel spreadsheet, you have been provided with the following information:

- Valuation assumptions
 - Individual insurance disability portfolio projections
- (b) (2 points) Construct the CSM amortization schedule. State any assumptions and show your work.

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

2. Continued

You are given the following scenarios for solvency testing:

Scenario 1: 10% increase in claims immediately

Scenario 2: 50% active shock lapse in year 20X4
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- (c) (3 points) Construct the CSM amortization schedule for each scenario. State any assumptions and show your work.

<i>The response for this part is to be provided in the Excel spreadsheet.</i>

Your colleague suggests that both scenarios should be considered solvency scenarios for the purposes of FCT.

- (d) (1 point) Critique whether each scenario qualifies as a solvency scenario. Justify your answer.

ANSWER:

*The Excel spreadsheet has
additional data and information applicable to this question*

3.

(7 points) You are the group benefits director at ABC Company (ABC), an international company, operating in both Canada and the United States (US).

An external consultant made several statements on how the funds flow through the healthcare system.

(a) (2 points) Identify whether each of the following statements is true or false. Justify your answer.

- Economic problems of medical care can be explained as uncertainties in disease incidence and treatment outcome leading a patient to seek transfer of their financial risk and agency.
- Regardless of the severity of a medical condition, consumers can shop around for the best price.
- Medical costs tend to be elastic.
- A US major medical plan covers substantially more services than a Canadian Medicare plan.
- The increase in supply of physicians is not instantaneous.
- Most hospitals compete over patients rather than physicians.

ANSWER:

Sally, an employee of ABC, is married to Steven and has two children, Amanda and Peter. Sally is seeking clarification regarding the coordination of benefits.

In the Excel spreadsheet, you have been provided with the following information:

- Steven's and Sally's drug plan provisions
- Dates of birth for each family member
- The family's drug claims in year 2026

(b) (2 points) Calculate the amounts reimbursed by each plan in 2026. State any assumptions and show your work.

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

3. Continued

- (c) (1 point) Describe the responsibilities of the following regarding coordination of benefits, according to the Canadian Life and Health Insurance Association (CLHIA) guideline:

- (i) (0.25 points) Covered individual

ANSWER:

- (ii) (0.75 points) Group plans

ANSWER:

ABC would like to integrate aspects of Diversity, Equity, and Inclusion (DEI) into their group benefits plan.

- (d) (1 point) Propose recommendations to help accomplish ABC's goal. Justify your answer.

ANSWER:

ABC is having issues attracting and retaining talent and is considering allowing their employees to work remotely from another province or country.

- (e) (1 point) Identify potential issues for ABC if remote work abroad is allowed.

ANSWER:

*The Excel spreadsheet has
additional data and information applicable to this question*

4.

(9 points) The benefits department of Company XYZ (XYZ), an Ontario-based employer, is aware of a brand name maintenance drug whose patent is set to expire next year. At least one generic drug is anticipated to be available once the patent expires.

- (a) (1 point) Describe how prices are set for both brand name and generic drugs in Canada.

ANSWER:

XYZ has contacted you, a benefits consultant, to help determine its projected savings due to the patent expiry.

In the Excel spreadsheet, you have been provided with the following:

- Pricing information regarding the brand name drug
- The current distribution of XYZ's employees taking the brand name drug
- Other assumptions

- (b) (1 point) Calculate XYZ's current year costs. State any assumptions and show your work.

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

- (c) (6 points) Calculate XYZ's projected costs next year if:

- (i) (4 points) A physician prescribes the generic drug.
- (ii) (2 points) A physician prescribes the brand name drug and indicates "no substitution."

State any assumptions and show your work.

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

4. Continued

- (d) *(1 point)* Recommend two changes to the plan design to reduce XYZ's plan costs. Justify your answer.

ANSWER:

*The Excel spreadsheet has
additional data and information applicable to this question*

5.

(8 points) You are the valuation actuary at XYZ Life Insurance Company (XYZ) and are responsible for calculating the required capital for a block of individual term life insurance products sold in Canada.

- (a) (2 points) List and describe the insurance risk components involved in the calculation of the required capital.

ANSWER:

In the Excel spreadsheet, you have been provided with the following information on your block of business:

- In-force data
- Projected cash flows under various scenarios
- Other information

- (b) (5 points) Calculate the required capital for the following insurance risk components:

- (i) (2.5 points) Mortality risk
- (ii) (2.5 points) Lapse risk

State any assumptions and show your work.

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

The management of XYZ is seeking to lower the overall required capital on your block of business.

- (c) (1 point) Propose a strategy that XYZ could implement to achieve this objective. Justify your answer.

ANSWER:

*The Excel spreadsheet has
additional data and information applicable to this question*

6.

(10 points) You are the valuation actuary responsible for the long-term disability (LTD) products at Superior Health, a Canadian insurance company headquartered in Calgary, Alberta.

Due to a recent decline in the financial performance of the LTD products, you have been asked to review the valuation assumptions used in the Disabled Life Reserve (DLR).

- (a) (2 points) List and describe the assumptions for tabular methods.

ANSWER:

- (b) (1 point) Describe how to incorporate conservatism when using tabular methods.

ANSWER:

You have been asked to analyze the impact of the Canadian Pension Plan (CPP) and Quebec Pension Plan (QPP) offset on the DLR.

- (c) (1 point) Describe criteria for receiving CPP/QPP disability benefits.

ANSWER:

- (d) (1 point) List the CPP/QPP enhancements that were announced in 2016 by the federal and provincial finance ministers.

ANSWER:

6. Continued

In the Excel spreadsheet, you have been provided with the following:

- Claimant's information
- Claimant's LTD plan design
- CPP approval rate assumption
- CPP information
- LTD termination rates

- (e) (3 points) Calculate the estimated CPP monthly benefit for this claimant. State any assumptions and show your work.

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

- (f) (2 points) Calculate the DLR as of December 31, 2025:

- (i) (1 point) With the estimated CPP offset
- (ii) (1 point) Without the estimated CPP offset

State any assumptions and show your work.

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

****END OF EXAMINATION****