

# Exam RET 201

Date: Tuesday, March 24, 2026

## INSTRUCTIONS TO CANDIDATES

### General Instructions

1. This examination has 7 questions numbered 1 through 7 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.

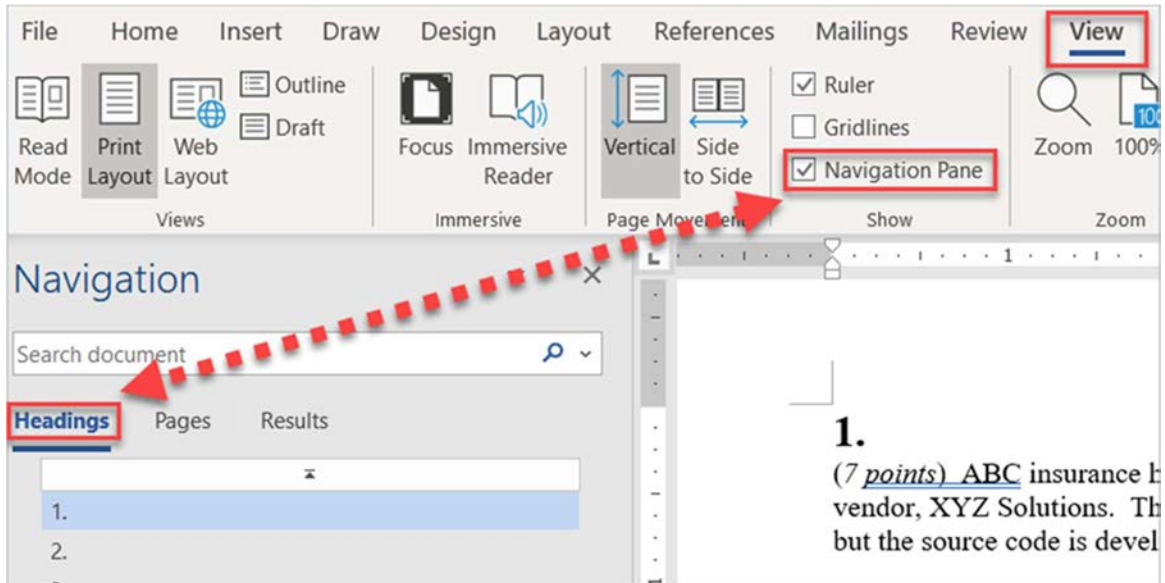
### Written-Answer Instructions

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,  $\beta_1$  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.
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. To maintain anonymity, please refrain from using your name and use your candidate number instead.
4. The Word and Excel files that contain your answers must be uploaded before the five-minute upload period expires.

## Navigation Instructions

Open the Navigation Pane to jump to questions.

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



## GENERAL INSTRUCTIONS

- All questions indicate whether the response is to be answered in Word or Excel. Only the Word document will be graded for parts of a question with Word answer boxes; only the Excel spreadsheet will be graded for parts of a question with Excel instructions.
- When answering in Excel, “show all work” means
  - Calculation formulas must be used in the answer cells containing the work.
  - All work should be labeled.

# 1.

(8 points)

- (a) (3 points) Company ABC is evaluating two different funding policies for its defined benefit pension plan.

	<b>Option 1</b>	<b>Option 2</b>
Discount Rate	Current market yields on high-quality government bonds	Estimated long-term average return based on the plan's asset allocation
Amortization period for deficits	5 years	15 years
Asset valuation method	Market Value	5-year Smoothed Market Value

Compare and contrast the implications of the two funding policies on the following:

- (i) Funded status of the plan
- (ii) Contribution level
- (iii) Company ABC's investment risk appetite

ANSWER:

Pension funding tends to be procyclical, meaning contributions are smaller during a macroeconomic expansion and larger during a macroeconomic contraction.

- (b) (3 points) Propose countercyclical strategies to remedy procyclical funding tendencies.

ANSWER:

- (c) (2 points) Describe considerations when developing a funding policy unique to multi-employer pension plans.

ANSWER:

## 2.

(8 points)

- (a) (1 point) Explain why a plan sponsor might prefer to use the Spot Rate Approach rather than the Traditional Approach for the purposes of liability measurement and pension expense.

ANSWER:

- (b) (4 points) Justify the use of the Traditional Approach rather than the Spot Rate Approach for the calculation of the service cost and interest cost, assuming an upward sloping yield curve, for each of the following scenarios:

- (i) Plan pays out large lump sums each year
- (ii) Closed plan
- (iii) Plan uses hypothetical bond matching in the measurement of the plan liability
- (iv) Large unrecognized losses

ANSWER:

- (c) (3 points) Calculate the interest cost under the Traditional and Spot Rate approaches using the benefit payment cashflows and yield curve provided below:

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

### 3.

(9 points) Company XYZ sponsors a defined benefit pension plan and reports under U.S. Accounting Standard ASC 715 (ASC 715).

You are provided with the following information as of January 1, 2026:

Discount Rate	5.10%
Expected Return on Assets	4.10%
Projected Benefit Obligation	\$30,042,000
Market Value of Assets	\$45,820,000
2026 Service Cost	\$500,000
2026 Expected Benefit Payments	\$1,748,000
2026 Expected Contributions	\$530,000
Unrecognized (Gain)/Loss	(\$9,477,000)
Unrecognized Prior Service Cost/(Credit)	\$450,000
Amortization Method	10% corridor
Average Future Working Lifetime	13.0

A member retired and elected a lump sum that was paid on December 31, 2026. You are given the following additional information:

Lump Sum Payment	\$2,500,000
Reduction in Projected Benefit Obligation	\$2,300,000

- (a) (2 points) Compare and contrast the accounting treatment of the lump sum payment between ASC 715 and International Accounting Standard IAS 19, Rev. 2011 (IAS 19).

Justify your response. No calculations required.

ANSWER:

### 3. Continued

You are provided with the following additional information as of December 31, 2026:

Projected Benefit Obligation	\$28,256,000
Market Value of Assets	\$43,270,000
2026 Actual Benefit Payments (including lump sum)	\$4,171,000
2026 Actual Contributions	\$550,000

- (b) (6 points) Calculate the following under ASC 715 reflecting the lump sum payment:
- (i) Revised 2026 Net Periodic Pension Cost
  - (ii) Accumulated Other Comprehensive Income at December 31, 2026

Show all work.

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

- (c) (1 point) Describe how the accounting treatment would be different under ASC 715 if the lump sum was paid on September 30, 2026.

Justify your response. No calculations required.

ANSWER:

**4.**

(6 points) Company ABC is a manufacturing company and sponsors a defined benefit pension plan covering 5,000 active members and 3,000 retired members.

The plan has the following target asset mix:

Bonds	50%
Equities	40%
Real Estate	10%

You are provided with the following provisions of the plan:

Retirement Benefit	1.8% of 3-year final average earnings per year of credited service
Early Retirement Reduction	3.00% per year from age 65
Portability	Employees have the option to elect a lump sum on termination or retirement

The following assumptions are effective for the January 1, 2026 plan year:

Expected Return on Assets	12.00% per year
Mortality Rates	2005 Blue Collar Mortality Table, adjusted for plan experience, with no improvement scale
Termination Rates	none
Salary Increase Rate	3.00% per year
Retirement Age	65

- (a) (3 points) Evaluate the appropriateness of the assumptions for use under U.S. Accounting Standard ASC 715 (ASC 715).

Justify your response.

ANSWER:
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#### 4. Continued

Management is considering establishing a supplemental executive retirement plan (SERP) to cover its 10 active executives.

- (b) (3 points) Evaluate the assumptions above for valuing the SERP liability under ASC 715.

Justify your response.

ANSWER:
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## 5.

(8 points)

- (a) (2 points) Compare and contrast the objectives of taxpayers to the objectives of elected officials with respect to the funding of public sector pension plans.

ANSWER:

- (b) (2 points) Explain why public sector pension plans have a tendency to be underfunded.

ANSWER:

In *Asset/Liability Management in the Public Sector*, the author advocates for using an asset/liability framework for managing public sector pension plan investments.

- (c) (1 point) Explain why the author believes investing in long duration bonds is optimal for a public sector pension plan.

ANSWER:

- (d) (3 points) Explain why the author believes the optimal amount of equity exposure held within a public sector pension plan can vary based on the following factors:

- (i) The amount of “noise” in the liabilities
- (ii) The “weight” attached to the surplus value
- (iii) The funded status of the plan

ANSWER:

**6.**

(8 points) Company XYZ is creating a new contributory defined benefit pension plan for its employees. Cost stability is a priority for the company.

The key provisions of the pension plan are outlined below:

Eligibility	Immediate
Vesting	Immediate
Normal Retirement Age	65
Normal Retirement Benefit	1.5% of 3-year final average earnings multiplied by years of credited service

You are also provided the following information regarding the actuarial assumptions:

Discount Rate	5.75% per year
Salary Increase Rate	3.25% per year
Retirement Rates	100% at age 65
Termination Rates	None assumed

(a) (3 points) Compare and contrast the appropriateness of using the following cost methods for the actuarial valuation for the purpose of funding the pension plan:

(i) Entry Age Normal

(ii) Unit Credit

Justify your response.

ANSWER:
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## 6. Continued

You are provided the following information for a member of the pension plan:

Age	32 years old
Service at December 31, 2025	0 years
2026 Salary	\$50,000
$\ddot{a}_{65}^{(12)}$	12.5

(b) (3 points) Calculate the normal cost as at January 1, 2026 for the member using the following cost methods:

(i) Entry Age Normal

(ii) Unit Credit

Show all work.

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

Company XYZ is considering establishing a second new final average earnings defined benefit pension plan for a small number of employees. The plan will cover future service only. Company XYZ has provided the following earnings information for the potential members of the pension plan:

	Member 1	Member 2	Member 3
2025 Salary	\$45,000	\$55,000	\$250,000

(c) (2 points) Recommend a cost method for the new final average earnings defined benefit pension plan.

Justify your response. No calculations required.

ANSWER:

**7.**

(3 points) Compare and contrast the impact on funding stability of the following asset valuation methods in a long-term declining equities market:

- (i) Book value
- (ii) 3-year smoothed market value
- (iii) Fair market value

ANSWER:
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**\*\*END OF EXAMINATION\*\***