Post Exam Summary Spring 2025

The Post Exam Summary is designed to provide candidates with insightful observations on candidates' exam performance, coupled with expert recommendations for improvement. This resource consists of a general summary section that applies across multiple exams, followed by individual sections for each of the exams administered during the last sitting. We will continue to provide updates and enhancements to the summary in the future.

General Observations and Study Tips:

Spreadsheet/Test Site Tips

- Candidates should note that the instructions for constructed response/spreadsheet items explicitly say to show all work; graders expect to see enough support on the candidate's answer sheet to follow the calculations performed. While the graders make every attempt to follow calculations that were not well-documented, lack of documentation may result in the deduction of points in cases where the calculations cannot be followed or are not sufficiently supported. Candidates can reference "An Open Letter from a CAS Grader" for additional insights.

- Graders make every effort to locate cells with solutions, but some candidates construct obscure responses within the grey question area. Candidates should attempt to organize their solutions outside of the grey question area and format their solution to assist graders with identifying and assigning credit accordingly.

- The spreadsheet environment allows for the full calculation without rounding. Do not round along any steps of calculations unless explicitly told to do so.

- Candidates should make every attempt to link their final answer in the yellow cell when applicable.

- Candidates should list all assumptions within their solutions. Some candidates thought certain questions were defective and as a result made explicit assumptions to address what they viewed as a defect, but described their assumptions in the survey instead of within their response. Candidates should be mindful that graders can only award credit based on candidate responses to the specific item, and not information included in the survey, so be sure to list assumptions directly on the question.

- Candidates should familiarize themselves with the Pearson VUE environment before taking the exam, and review and practice the functions available in the testing environment to save time during the exam.

- Candidates should not expect all formulas and spreadsheet functionality to work in a similar fashion to other software. Some Microsoft Excel shortcuts are not available in the testing environment, for example locking-in cell references with F4. Common mistakes include anchoring references (need to manually anchor), and not sorting (e.g., using RANK, SMALL, LARGE) correctly. Candidates are encouraged to review the [Athena Spreadsheet Function Comparison](#).

- Candidates should take care to check cell references in the testing environment. Moving cells can cause absolute references to be removed.

- Candidates should be aware while practicing that questions in the spreadsheet environment might require manipulating a greater volume of data compared to that of prior released exams (ex. 6x6 loss triangles rather than 3x3)

- Candidates should be sure to review the [Know Before You Go](#) page on the CAS website for additional information regarding their exam experience as well as information regarding breaks and specific resources related to Pearson Vue.

Exam Questions/Response Tips

- An incorrect response to one part of a question will not preclude candidates from receiving credit for correct work on subsequent parts of the question that depended upon that response.

- Candidates should be sure to show all work on spreadsheet questions. Work done outside the spreadsheet window (e.g. in the Scratch Pad or on a handheld calculator) cannot be seen by graders, makes following candidates' calculations and thought process more difficult, and reduces graders' ability to award partial credit.

- Candidates should be cognizant of the way an exam question is worded. They must look for key words such as "briefly" or "fully" within the problem. For example, some candidates provide lengthy responses to a "briefly describe" question, which only takes up additional time during the exam when a shorter answer would still receive full credit. We refer candidates to the Future Fellows article from December 2009 entitled "[The Importance of Adverbs](#)" for additional guidance on this topic.

- Candidates should be familiar with the potential item types as described in the Content Outline.

- All exam questions have been written and graded based on information included in materials that are directly referenced in the official Syllabus of Basic Education and the exam-specific content outlines found on the CAS website. Additionally, terminology used in the items is intended to be consistent with the terminology used in the official text references. Candidates are encouraged to read the text references directly rather than rely solely on alternative sources.

- Candidates should be careful to read the item as it is written. Sometimes the candidate may expect the problem to provide one piece of information (number of variables, e.g.) but it actually provides a different piece of information (number of parameters, e.g.).

- Some Fill in the Blank items require the answer to be in the form of a percentage and candidates should be sure to input the value in the correct format. These items will be indicated by a blank followed by the percentage sign (____%). If, for example, item asks to "round to the nearest 1 decimal place" and the candidate calculates the answer as 89.688%, the candidate should input "89.7" as the answer.

- The exam committee appreciates comments made during the exam, especially when candidates feel there is an ambiguity in the item. These comments are read and help both the grading of the exam and the development of future exams.

- Where judgment is applied, candidates should include a few words on why they have made a certain selection, to help graders understand the observations that the candidate is making.

- Candidates should make sure to fully answer a subpart into the designated space for the subpart so that the entirety of their answer is graded. Candidates should note that graders do not see the other subparts' answers when grading a given subpart. This does not result in no grade or credit; however, it requires additional work for the grader to access the candidate's intended solution.

- We do our best to make sure the information given in the prompt uses similar language and conventions as those in the text references. However, candidates should still read and trust the instructions given in the prompt, even if they seem to indicate a difference from the text references. For example, the labels on the graph are there to give context to the graph, and the candidate should not assume that the graph is the same as one found in the text references.

Exam MAS-I Specific Comments:

- Consistent with prior sittings, candidates generally did better on Domain A than Domain B and C by a material amount.

- Within Domain A, some candidates had difficulty with random number generation. There was one question in this section that contained content from outside the syllabus and was struck from scoring.

- Within Domain B, some candidates had difficulty solving for the MLE of a given distribution

and with identifying the features of a beta distribution.

- Within Domain C, some candidates had difficulty calculating F-statistics, displaying understanding of modeling features on high-dimension data, working with basis functions, calculating confidence intervals, calculating deviance, hypothesis testing, working with q-q plots, variable selection, and working with kernels.

Exam MAS-II Specific Comments:

- Tables provided in the exam contain rounded numbers, which is done to reduce the amount of information needed to be copied when performing calculations. Candidates should trust the information given in the prompt about the data to avoid spending extra time on the item. For example, if the prompt states that the data have been standardized, it could be a rounding issue that prevents the calculated mean form being 0 and the calculated standard deviation from being 1. In this example, candidates can trust that they can skip any additional standardization step and use the values presented in the table.

- Candidates struggled with converting a set of columns to their representation using principal components. Please see James et al. Section 12.2.1 for this calculation.

- When evaluating a decision tree, the branch to the left contains the summary of the observations for which that condition is true. This is consistent with the presentation in the James et al. text, but we also describe this convention in the prompt of every item for extra clarity.

Exam 5 Specific Comments:

- Some candidates had difficulty with certain aspects of the "traditional" indication question, such as trend and on-levelling. Candidates should familiarize themselves with the examples in Werner/Modlin and its appendices as a useful study tool to understand various adjustments.

- Many candidates were not familiar with reinsurance concepts such as excess of loss and quota share.

- Many candidates struggled applying techniques to estimate unpaid unallocated loss adjustment expense.

- Candidates at times performed below expectations on new item types including Matching and Multiple Choice. It is recommended for candidates to consider a "process of elimination" approach to questions and not overthink the responses. Questions are not written intentionally to "trick" candidates.

Exam 6C Specific Comments:

- Candidates could enhance their performance on Domain A by further review of topics related to Alberta auto reform and usage-based insurance pricing (covered in FSCO Technical Notes).

- In general, candidates performed very well on Domain B related questions, and candidates could benefit from additional review of the GOC Flood Risks reading.

- Candidates should be able to calculate the total interest rate risk margin, and the following are some areas that candidates struggled with on this exam:

  o When calculating the effective duration, candidates should be able to choose a reasonable interest rate shock.

  o Assets for remaining coverage (ARC) should be included in the calculation.

  o Risk adjustments for Assets for Incurred Claims (AIC) and Liability for Incurred Claims (LIC) should be included in the calculation.

- In general, candidates performed well on IFRS 17 related questions. Candidates could perform better on questions related to qualitative assessment for onerous contracts and calculation of loss component as published CIA IFRS 17 – LRC Excel illustrations. We also encourage candidates to refer to IFRS 17 sample questions published on CAS website.

- Some candidates could benefit from a further review of the CIA Use of Models Educational Note. Candidates should fully understand the considerations of whether to update a model's risk rating and know how to assess a model and validate the model.

- Some candidates could benefit from a further review of the CIA reinsurance treatment topic. Candidates were expected to understand risk transfer principles and briefly describe how the features of a reinsurance policy would factor into a risk transfer analysis by denoting which features may limit risk transfer. Candidates can review Fall 2018, Question 18 for an example.

- Some candidates lost points by not carefully reading the questions. Candidates may be expecting to be asked a question that has been asked on past exams, when in fact it is asking for something distinct but related. For example, considerations of determining a model risk rating, compared to considerations for when to update a model risk rating.

Exam 6U Specific Comments:

- Candidates showed gaps in knowledge on Domain A (United States Laws and Regulations) which has been typical in recent sittings.

- Candidates performed most strongly on Domain B (Government Programs).

- Domain C (Financial Reporting and Professional Responsibilities of the Actuary) saw a drop off in performance, especially on the Statement of Actuarial Opinion (SAO) questions. Candidates have perennially struggled with this section.

- Candidates struggled with details around the stated basis of reserve presentation in the Statement of Actuarial Opinion (SAO), including the items that should be included, actions that the Appointed Actuary should take when information is incomplete, and organizational changes that might cause the stated basis to change between SAOs.

- Candidates did poorly on the financial statements questions for Domain C, a section they are normally well-prepared for.

- One multiple choice question with multiple correct answers relating to intercompany pooling arrangement disclosures in the SAO was deemed defective. One answer marked correct in the rubric was not actually correct. The pass mark for the exam was reduced accordingly.

- Candidates had limited familiarity with some of the details of the National Flood Insurance Program (NFIP) including around reinsurance purchasing by FEMA and risk-based vs. subsidized rates.

- Candidates did very poorly on a question regarding the Nonadmitted and Reinsurance Reform Act (NRRA), part of Dodd-Frank.

- Many candidates misinterpreted a question on the types of price optimization. Candidates often focused on metrics (e.g. conversion rate) that might be used to adjust rates in an optimization algorithm, rather than the type of algorithm itself.

- Candidates had some trouble describing the causes of the rise of nuclear verdicts. Some candidates mistakenly thought this referred to nuclear energy.

- Candidates had some difficulty with the construction and language in the Actuarial Opinion Summary (AOS), particularly the language to use for item E relating to one-year adverse development.

- Candidates struggled with details around when an Actuarial Report should be completed,

and which disclosures should be included therein.

- While overall performance on Risk-based Capital (RBC) calculations was strong, candidates had trouble recalling details around the loss sensitive adjustment in the RBC calculation.

- Candidates had some trouble calculating and interpreting certain IRIS ratios, especially relating to surplus aid and reserve development.

- Candidates underperformed on a question related to the appropriate discount rate to use in reinsurance risk transfer analysis.

- Candidates scored poorly on a question related to the accounting for direct vs. ceded premiums in intercompany pooling arrangements.

Exam 7 Specific Comments:

- Many candidates confused the Variance of Hypothetical Mean (VHM) with the Expected Value of Process Variance (EVPV) in the Brosius loss development framework.

- Many candidates confused the empirical approach with the formula approach to calculate the premium development to loss development ratios (PDLDs) in the Teng and Perkins framework.

- Many candidates failed to demonstrate sufficient understanding of stochastic models' framework as described in Section 2 of the Taylor paper. For example, candidates should be familiar with the different parameters in this framework and know how to calculate the mean and variance of claim reserves given a set of parameters for a given family of distribution.

- Many candidates had difficulty applying properly all the necessary steps of the GLM bootstrap reserving methods. These steps are illustrated at a high level in Section 1 of the Shapland paper, and the framework and parameters of the GLM bootstrap model are detailed in Section 3 of the same paper.

- Many candidates struggled with adjusting loss data to calculate ceded or assumed losses, applying different types of reinsurance treaties properly and adjusting data for catastrophe losses, as described by Friedland. Candidates could review the methods illustrated in tables 3.11, 3.13 and 3.14 of the Friedland paper.

- Some candidates used the cumulative loss triangles provided as if they were incremental loss triangles.

- Some candidates had difficulty incorporating expert opinion on development factors in their reserving analysis. Candidates should be familiar with the methods described in section 4 of the Verrall paper.

- Some candidates used a different method vs what was asked by the question (e.g., Hurlimann vs Benktander).

- Some candidates wrongly provided total reserves where the question asked for unpaid claims for a specific accident year.

Exam 9 Specific Comments:

- Performance was slightly less than anticipated on Domain A. Candidates lacked sufficient knowledge on exposure curves.

- Performance was slightly less than anticipated on Domain B. Candidates performed poorly when attempting to calculate the profitability of insurance policies.

- Candidates performed poorly on Domain C, particularly when it came to allocating capital and the applications of securitization of catastrophe risk. When asked to allocate capital, some candidates allocated assets instead of capital.

- Candidates did well on Domain D, particularly with analyzing insurance and financial risk quantitatively (task 2). Candidates struggled with understanding the underwriting cycle for this domain.