EDUCATION COMMITTEE OF THE SOCIETY OF ACTUARIES (SOA)

INTRODUCTORY STUDY NOTE

EXAM SESSION: SPRING 2022

EXAM: QUANTITATIVE FINANCE AND INVESTMENT—PORTFOLIO MANAGEMENT

DATE: Friday, April 29, 2022; Time scheduled with Prometric Test Center

1. The examination will consist of five hours of written-answer questions worth 100 points. The examination clock during the exam will provide a total of five hours and fifteen minutes. The additional fifteen minutes may be used at the exam taker's discretion for such things as reading time, breaks, or additional work time on the exam.

2. The SOA has established a recommended order for each fellowship track.

   This order is NOT mandated. Each candidate will determine the appropriate sequence based on factors including readiness to sit for an exam, exam administration schedules, or study time available. However, the Education committees believe that these recommendations provide the most effective guide for candidate success. An examination/module may assume familiarity with material that is covered in any requirement that is recommended to come before that examination or module.

3. The Syllabus material includes textbooks, online readings, and the study notes listed in the Appendix. Study notes listed with an asterisk (*) will also be included in the Revision set of study notes. The Appendix also may contain additional important information regarding this exam. A complete listing of the Syllabus and Learning Objectives is located in this exam's home page on the SOA Web site.

4. Several book distributors carry some or all of the textbooks for the Society of Actuaries exams.

5. Any changes in the Syllabus for this exam will be published under "Updates" in this exam's home page on the SOA Web site.

6. Past exams, solutions and case studies are available on the SOA Website.

7. There is no case study for this examination.

8. The candidate should be very familiar with the Learning Objectives. These Learning Objectives are the first ingredient in developing the syllabus and also guide the examination committee when writing questions. The Learning Objectives set out the cognitive level needed to pass this exam. You will notice that the candidates are expected to "analyze," "explain," "calculate," "describe," "apply," etc. While studying the syllabus material, candidates may want to refer back to the Learning Objectives to remain focused on the goals of the exam.

9. The examination questions for this exam will be based on the required readings for this exam. If a conflict exists (in definitions, terminology, etc.) between the readings for this exam and the

readings for other exams, the questions should be answered on the basis of the readings for this exam.

10. Candidates may ONLY use these battery or solar-powered Texas Instruments models: BA-35, BA II Plus*, BAII Plus Professional*, TI-30Xa, TI-30X II* (IIS solar or IIB battery), and TI-30X MultiView* (XS solar or XB battery). Candidates may use more than one of the approved calculators during the examination.

    Calculator instructions may not be brought into the exam room. During the exam, the calculator must be removed from its carrying case so the supervisor can confirm that it is an approved model. Candidates using a calculator other than the approved models will have their exams disqualified.

    Candidates can purchase calculators directly from: Texas Instruments, Attn: Order Entry, PO Box 650311, Mail Station 3962, Dallas, TX 75265, phone 800/842-2737.

    The memory of the **BA II Plus, BA II Plus Professional, TI-30X II and **TI-30X MultiView** calculators will need to be cleared by the examination supervisor upon the candidate's entrance to the examination room.*

11. A list of various seminars/workshops and study manuals appears on the SOA Web site. These seminars/workshops and study manuals do not reflect any official interpretation, opinion, or endorsement of the Society of Actuaries or its Education Committee.

    Please note that the Education Committee expects candidates to read the material cited in the *Syllabus* and to use other material as a complement to the primary sources rather than a substitution for them.

12. The Society of Actuaries provides study notes to persons preparing for this examination. They are intended to acquaint candidates with some of the theoretical and practical considerations involved in the various subjects. While varying opinions are presented where appropriate, limits on the length of the material and other considerations sometimes prevent the inclusion of all possible opinions. These study notes do not, however, represent any official opinion, interpretation or endorsement of the Society of Actuaries. The Society is grateful to the authors for their contributions in preparing study notes.

    The American Academy of Actuaries, the Canadian Institute of Actuaries, the Conference of Consulting Actuaries, and the Society of Actuaries jointly sponsor various examinations administered by the Society of Actuaries.

APPENDIX

Study notes for this exam

Code	Title	Former Code
QFIP-105-13	Report of the Life Liquidity Work Group of the American Academy of Actuaries to the Life Liquidity Risk Working Group of the NAIC, Dallas, TX, September 2000	QFIA-105-13
QFIP-106-20	Chapters 2 and 3 of *Liquidity Risk Measurement and Management: A Practitioner's Guide to Global Best Practices*	QFIA-106-13
QFIP-117-13	Reflections on Northern Rock: The Bank Run that Heralded the Global Financial Crisis	QFIA-117-13
QFIP-123-16	Liquidity Risk Management: Best Risk Management Practices	QFIA-123-16
QFIP-128-18	The Evolution of LDI & Role of a Completion Manager	QFIA-128-18
QFIP-131-19	Addressing Built-in Biases in Real Estate Investment	
QFIP-133-19	Environmental, Social, and Governance Criteria: Why Investors Should Care	
QFIP-134-19	Chapters 5 and 6 of *Quantitative Credit Portfolio Management*	
QFIP-135-19	High-Yield Bond Market Primer	
QFIP-136-19	Elements of an Investment Policy Statement for Institutional Investors	
QFIP-137-19	Managing Your Advisor: A Guide to Getting the Most Out of the Portfolio Management Process	
QFIP-139-19	Chapter 13 of *IAA Risk Book*	
QFIP-140-19	Chapter 7 of *Modern Investment Management: An Equilibrium Approach*	
QFIP-141-19	Liability Driven Investment Explained	
QFIP-142-19	Chapter 10 of *Modern Investment Management: An Equilibrium Approach*	
QFIP-144-19	Risk Parity is about Balance	
QFIP-145-19	Determinants of Portfolio Performance	
QFIP-146-20	Private Debt in an Institutional Portfolio	
QFIP-148-20	IFRS 17 Insurance Contracts: IRS Standards Effects Analysis	
QFIP-150-20	IFRS 9 for Insurers	
QFIP-151-20	Chapter 5 of *Asset/Liability Management of Financial Institutions: Maximizing Shareholder Value Through Risk-Conscious Investing*	
QFIP-152-20	How Behavioral Biases Affect Finance Professionals	
QFIP-153-20	Asset Allocation in a Low Yield Environment	
QFIP-154-20	The Evolution of Insurer Portfolio Investment Strategies for Long-Term Investing	
QFIP-155-21	Fundamentals of Efficient Factor Investing	
QFIP-156-21	Minimising Accounting Mismatches Relating to Financial Risk for Insurers	

The following additional information applies to this exam:

Exam booklets in both the morning and afternoon will include a cumulative normal distribution table identical to the one posted on the syllabus page of the Web site.

A formula package will also be available for this exam. It will be posted on the syllabus page of the Web site.
Morning and afternoon exam booklets will include a formula package identical to the one attached to this study note. The exam committee felt that by providing many key formulas, candidates would be able to focus more of their exam preparation time on the application of the formulas and concepts to demonstrate their understanding of the syllabus material and less time on the memorization of the formulas. The formula package was developed sequentially by reviewing the syllabus material for each major syllabus topic. Candidates should be able to follow the flow of the formula package easily. We recommend that candidates use the formula package concurrently with the syllabus material. Not every formula in the syllabus is in the formula package. **Candidates are responsible for all formulas on the syllabus, including those not in the formula package.** In general, formulas not in the package are either relatively fundamental or uncomplicated, or are part of the derivative of formulas that are in the package.

Candidates should carefully observe the sometimes-subtle differences in formulas and their application to slightly different situations. For example, there are several versions of the Black-Scholes-Merton Option Pricing formula to differentiate between instruments paying dividends, tied to an index, etc. Candidates will be expected to recognize the correct formula to apply in a specific situation of an exam question.

Candidates will note that the formula package does not provide names or definitions of all the formulas or symbols used. With the wide variety of references and authors of the syllabus, candidates should recognize that the letter conventions and use of symbols may vary from one part of the syllabus to another and thus from one formula to another.

We trust that you will find the inclusion of the formula package to be a valuable study aide that will allow for more of your preparation time to be spent on mastering the learning objectives provided as part of this study note.