

Exam FM

Study Program Guide

Spring 2016



BPP

PROFESSIONAL
EDUCATION



*Get the most
from your
study
program...*

... see page 8

This document contains important information
Please read this document carefully before starting your study

Contents

| | | |
|----|--|----|
| 1. | About the BPP Study Program | 4 |
| 2. | Additional help from BPP | 7 |
| 3. | Getting the most from your BPP study materials | 8 |
| 4. | Study Skills | 10 |
| 5. | Calculator advice, examination tables and exam tips | 12 |
| 6. | Your study session planner | 13 |
| 7. | Syllabus | 32 |

Welcome

We're confident that this BPP Exam FM study program will have a very positive impact on the way you study for the actuarial exams. We believe that students should spend their time focusing on learning and preparing for the exam, not juggling their time between textbooks, separate solution manuals and then additional study manuals to re-explain those textbooks and solution manuals!

No other provider of actuarial education offers such a wide range of coordinated support, including:

- introductory online lectures
- comprehensive text and course notes
- online multiple choice tests
- exam-style question & answer banks
- online guided question presentations working through selected exam-style questions
- email tutor support.

We've designed the course to cover all the learning objectives in an order that's right for you. Our text and course notes provide clear explanations of the syllabus, and include over 430 worked examples and practice questions, all with full solutions.

Our introductory online lectures and online multiple choice tests are fully coordinated with the text and course notes. They will ensure that you can get a good introduction to each topic as well as test your knowledge and understanding.

Our question and answer bank contains over 720 exam-style questions to give you the practice necessary to maximize your opportunity for success in the actual examination. It includes a full specification of how to use some of these questions to create two original practice exams. We've also produced over 80 online presentations to guide you through the solutions to selected questions on topics from across the course.

For BPP, providing a study program means providing a commitment to support students all the way through to the exam. Our full-time tutors will answer any questions you may have by email so that you always have the support you need.

Passing the actuarial exams is difficult enough. We understand that you're competing against some very bright people and that it's always hard to find time for studying between working and spending time with friends and family. BPP's study programs organize your study effectively and provide the very best support. They will help you maximize your chances of success in the exam and to make good progress towards qualification.

As you have more contact with BPP, you'll find us to be a very friendly and proactive company. We are committed to providing high quality study support. We respond quickly to students' requests and will do all we can to meet your specific needs. We look forward to helping you.

Good luck with your studying.



David Wilmot
Director of Education

1 About the BPP Exam FM study program

BPP’s Exam FM study program has everything you need to know, containing 6 coordinated sources of help, some of which are delivered through our dedicated Online Classroom learning environment. Use our study session planner (in Section 6 of this guide) to make sure you get the most from your BPP study program.

Online lectures

Our introductory online lectures give you a quick start by introducing all of the main topics.

The lectures are coordinated with the BPP text and course notes to give you the most comprehensive study support available.

You can watch them as many times as you like – as an overview before you study the course notes, or to help you review the material you’ve just covered.

Either way, together with BPP’s text and course notes they will help you to understand even the most difficult areas of the syllabus.

Example – increasing annuity-due

Determine the present value at time 0 and the accumulated value at time 10 of \$25 at time 0, \$50 at time 1, and so on, up to \$250 at time 9, when $i = 5\%$.

$$\begin{array}{ccccccc}
 \$25 & \$50 & \$75 & \$100 & \dots & & \$250 \\
 | & | & | & | & \dots & & | \\
 0 & 1 & 2 & 3 & \dots & & 9 & 10
 \end{array}$$

Present value:

$$\begin{aligned}
 25(\ddot{a})_{10|5\%} &= 25 \times \frac{\ddot{a}_{10|} - 10v^{10}}{d} = 25 \times \frac{1 - (1.05)^{-10}}{0.05/1.05} - 10(1.05)^{-10} \\
 &= 25 \times 41.34247 \\
 &= \$1,033.56
 \end{aligned}$$


Text and course notes

The text and course notes are divided into 14 study sessions to help you structure your progress through the period leading to the exam. Note that Chapter 9 of the textbook (‘Stochastic interest rates’) is non-examinable, so Study Session 9 relates to the Derivatives Markets course notes.

| Text | | Course Notes | |
|---------|---|--------------|-----------------------------|
| Session | Title | Session | Title |
| 1 | Interest rates and factors | 9 | Introduction to derivatives |
| 2 | Level annuities | 10 | Forwards and options |
| 3 | Varying annuities | 11 | Derivative strategies |
| 4 | Non-annual interest rates and annuities | 12 | Risk management |
| 5 | Project appraisal and loans | 13 | Forwards and futures |
| 6 | Financial instruments | 14 | Swaps |
| 7 | Duration, convexity and immunization | | |
| 8 | The term structure of interest rates | | |

Our text and course notes include clear explanations of the main theory, and over 430 worked examples and practice questions (all with full solutions). The full solutions to the end-of-chapter questions are available for free on the FM homepage of our website, www.bpptraining.com.

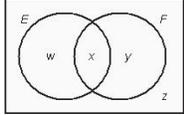
Online tests

After having read the text or course notes you can quickly check your knowledge and understanding using our online multiple choice tests, which include a wide variety of conceptual, computational, and knowledge-based questions. The online test questions are a little more straightforward than you might expect to see on the actual exam. However, they are a great way to work up to the more difficult questions that appear in the Question and Answer Bank.

Apr 25 2014 | Logged in as : Wilmot,David

5 of 25
P_03_05

In the Venn diagram below events E and F are represented by circles. The lower case letters represent probabilities of the regions that contain them.



Which of the following statements is correct?

- $\Pr(E \cup F) = \frac{w}{w+x+y}$
- $\Pr(F|E) = \frac{z}{w+x}$
- Given that either event E or event F (or both) has occurred, the probability that both events have occurred is x.

- 1 and 2 only
- 1 and 3 only
- 2 and 3 only
- All
- None

BPP's online tests contain brand new short questions with full solutions. They're coordinated with the BPP text and course notes and are designed to test all the key concepts that you'll need to know and work you towards answering exam-level questions such as those in our Question and Answer Banks.

Question & Answer Bank and Online presentations

The Question & Answer Bank contains over 720 exam-style questions. This includes a mix of past exam questions (taken from Course FM exams) and over 470 original questions written by our team of instructors. We provide a detailed line-by-line solution to every question, to help you learn the techniques required to pass the exam, and we explain how to combine some of the questions that appear into two practice exams to use during the review stage of your studies.

We've also chosen over 80 questions from across the Question & Answer Bank and produced online presentations to guide you through their solutions step-by-step.

The questions are coordinated with the text and course notes through our study session planner in Section 6 of this Study Program Guide.

Email tutor support

Our email support service is designed to help you with the more difficult areas of the course. We'll answer your questions thoroughly and quickly so that you can get on with your studying with no worries. Please refer to the FAQ's section of our website for further guidance regarding email support.

2 Additional help from BPP

Practice exams

BPP's practice exams look and feel just like the real thing – they're designed to give you a realistic test of your exam preparation. Our practice exams are available online to help you prepare for the computer-based testing process. Each online practice exam contains original exam-style questions (which do not appear elsewhere in our materials) and is supplied with full solutions. The online practice exams are another helpful source of exam-style questions, especially for students who have worked through all the other questions.

Flashcards

BPP offers user-friendly flashcards to supplement the study program. They'll help you review and remember the most important formulas, lists, concepts and other pertinent information. Memorizing the important formulas and knowing how to use them are the most effective exam preparation approach for many students, and our flashcards are very helpful in this regard.

Find out more at www.bpptraining.com

For more information on BPP's full range of products and services, visit our website at www.bpptraining.com.

Our website includes many free samples to download, including course notes, flashcards and online lectures.

You'll also find information on how you can order our products.

The screenshot shows the BPP Professional Education website. The header includes the BPP logo and the text "BPP Professional Education" with a tagline "Support for the exams of the Society of Actuaries and the Casualty Actuarial Society". A navigation menu contains links for Home, Ordering our products, About BPP, Links, Contact us, and FAQs. The main content area features a large image of a smiling woman and the text "BPP Professional Education". Below this, there is a section titled "Products:" with a list of exams: SDA Exam PICAS Exam 1, SDA Exam FM/CAS Exam 2, SDA Exam MLC, SDA Exam MFE, and SDA Exam CICAS Exam 4, along with a "Calculus Review" link. To the right of this list is a section titled "BPP is the best choice" with four bullet points highlighting the company's benefits. Below the products list is a "Services:" section with links for Free samples, Ordering, Returns, Student Feedback, Study Tips, and Test Question Solutions. At the bottom, there is a "Latest News: 2014 Exams Products Available Now." section with four small images and captions: Study Tips, Ordering, BPP Online, and Free Samples.

6 Your study session planner

Overall study plan

You should set a study plan that is *realistic for you*, based on when you start studying for the exam, your prior knowledge, and other commitments.

Here are some *sample* study plans. There is a lot of material to get through and holiday periods to be enjoyed (!), so *giving yourself more time would be prudent*. This plan can be modified as needed if you want to start on a different date or desire a different pace, but always keep the exam date in mind since it arrives quickly.

| Week # | Week beginning | Week beginning | Week beginning | Activity |
|--------|----------------|----------------|----------------|---|
| 1 | 10/5 | 11/23 | 1/25 | Study session 1 |
| 2 | 10/12 | 11/30 | 2/1 | Study session 2 |
| 3 | 10/19 | 12/7 | 2/8 | Study session 3 |
| 4 | 10/26 | 12/14 | 2/15 | Study session 4 |
| 5 | 11/2 | 12/21 | 2/22 | Study session 5 |
| 6 | 11/9 | 12/28 | 2/29 | Study session 6 |
| 7 | 11/16 | 1/4 | 3/7 | Study session 7 |
| 8 | 11/23 | 1/11 | 3/14 | Study session 8 |
| 9 | 11/30 | 1/18 | 3/21 | Study sessions 9 and 10 |
| 10 | 12/7 | 1/25 | 3/28 | Study session 11 |
| 11 | 12/14 | 2/1 | 4/4 | Study session 12 |
| 12 | 12/21 | 2/8 | 4/11 | Study session 13 |
| 13 | 12/28 | 2/15 | 4/18 | Study session 14 |
| 14 | 1/4 | 2/22 | 4/25 | Six-week review period Focus on practicing exam-style questions under time pressure and memorizing key formulas. Attempt the practice exams made up of Q&A Bank questions, or the BPP online practice exams. Identify your weaknesses and work to eliminate them. |
| 15 | 1/11 | 2/29 | 5/2 | |
| 16 | 1/18 | 3/7 | 5/9 | |
| 17 | 1/25 | 3/14 | 5/16 | |
| 18 | 2/1 | 3/21 | 5/23 | |
| 19 | 2/8 | 3/28 | 5/30 | |
| 20 | 2/15 | 4/4 | 6/6 | Exam FM examination weeks |

The following pages are designed to help you plan each of your study sessions in order to make steady progress through the course.

It is critically important to get through all of the material, reviewing it several times, and to work through a lot of exam-style questions. A potential trap is to get bogged down in one area with the result that you then don't have time for a thorough review of the rest of the material.

Study record

Use this table to record your progress. Enter the date you complete each task and study session.

| | Study Session | | | | | | | | | | | | | |
|--|---------------|---|---|---|---|---|---|---|---|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| <p>Online lectures</p> <p>Watch BPP's online lecture for each study session. Each lecture provides an overview of the relevant topics.</p> | | | | | | | | | | | | | | |
| <p>Reading</p> <p>Read the relevant section of the text or course notes (the session pages that follow tell you what to read). Work through end-of-chapter questions to test your understanding. We recommend saving the questions marked SOA/CAS for the 6-week review period.</p> | | | | | | | | | | | | | | |
| <p>Online multiple choice tests</p> <p>Attempt BPP's multiple choice test for each study session. The tests focus on the key concepts through a series of short, multiple choice questions.</p> | | | | | | | | | | | | | | |
| <p>Question & Answer Bank</p> <p>Attempt questions from the Question & Answer Bank and work through the guided question presentations in the Online Classroom. The Question & Answer Bank contains exam-style questions, including a mixture of past exam and brand new questions. We recommend saving the questions marked SOA/CAS and those marked <i>PE-A</i> and <i>PE-B</i> (which are used in the Q&A Practice Exams) for the 6-week review period.</p> | | | | | | | | | | | | | | |

Study session 1

Required reading: Chapter 1 of the BPP text.



Guidance, hints, tips and advice

Only 0% - 10% of the questions on an average FM exam might be expected to come from this part of the syllabus. But don't let these low numbers fool you into simply skimming this chapter. The first chapter is the foundation for the subsequent chapters, so you will need to have a strong understanding of this chapter.

As you read the material from this chapter, you'll learn about interest rates, discount rates, and the force of interest. Keep in mind that these rates are just different ways to measure interest - much in the same way that speed can be measured in either miles per hour, kilometers per hour, feet per second, or light-years. As such, it will be very useful during the exam to understand the inter-relationships between these measures so that you are able to convert between interest rates, discount rates, and the force of interest. These relationships will also be very useful in later chapters.

Important topics (*ie* most examined) in this area are:

1. simple interest and simple discount
2. compound interest and compound discount
3. force of interest
4. accumulated value and present value.

In the text, we've placed a box around the important formulas to help you identify them for your review. (During the exam, you won't have time to derive many formulas, so by the exam date it is important to have memorized most of the important ones!).

Less important topics:

- Don't spend time memorizing proofs, but bear in mind that working through them will help you prepare for the exam by giving you an understanding of the formulas and any underlying assumptions. It will also ease your subsequent memorization of the formulas concerned.

References to prior knowledge that is assumed and used in this area:

- basic calculus.

Techniques, shortcuts and suggestions:

1. Every question should be read carefully before you begin your work. With so many terms (simple vs. compound, interest vs. discount, rate vs. force, *etc*) it is important to know exactly what is being asked in order to get the correct answer.
2. When converting between a simple interest rate and a simple discount rate, be aware that the result is only appropriate for that specific time. That is, the result is not appropriate to use across time. When converting between a compound interest rate and a compound discount rate, the result is appropriate across time.
3. The accumulated value factor is the reciprocal of the present value factor, and vice versa.