Important Exam Information:

Exam Date and Time	A read-through time will be given prior to the start of the exam–15 minutes in the morning session and 15 minutes in the afternoon session.
Exam Registration	Candidates may register online or with an application.
Order Study Notes	Study notes are part of the required syllabus and are not available electronically but may be purchased through the online store.
Introductory Study Note	The Introductory Study Note has a complete listing of all study notes as well as errata and other important information.
Case Study	A copy of the case study will be provided with the examinations. Candidates will not be allowed to bring their copy of the case study into the examination room.
Past Exams	Past Exams from 2000-present are available on SOA website.
<u>Updates</u>	Candidates should be sure to check the Updates page on the exam home page periodically for additional corrections or notices.

1. Topic: Accounting and Value Measures / Managerial Accounting

Learning Objectives

The candidate will understand measures of corporate value and their uses in risk management.

Learning Outcomes

The Candidate will be able to:

- a) Apply basic accounting concepts used in producing financial statements.
- b) Explain how economic capital can be used as a value measure by financial institutions.
- c) Compare and contrast various financial reporting bases for use in risk management and corporate decision-making.

- SDM-100-13: Managerial Accounting for CERAs and FSAs, 2013
- SDM-101-13: Hidden Hedge Fund in Insurers
- SDM-105-13: The European Insurance CFO Forum Market Consistent Embedded Value Principles
- SDM-129-14: The Impact of Capital Structure on Economic capital and Risk Adjusted Performance
- SDM-130-14: A Comparison of Solvency Systems: US and EU
- SDM-131-14: Solvency Modernization Initiative Country Comparison Analysis–Switzerland, UK, Australia, Solvency II, Canada
- SDM-132-14: There's More to Life than Solvency II
- SDM-133-14: Solvency II: Rainmakers and the Elements of Risk
- SDM-142-15: China Risk Oriented Solvency System Conceptual Framework
- An ERM Approach to Income Tax Risk, by John Manistre, Risk Management March 2009 Issue 15

2. Topic: Credit and Liquidity Risk

Learning Objectives

The candidate will understand various approaches to measuring and managing credit and liquidity risk.

Learning Outcomes

The Candidate will be able to:

- a) Apply credit and liquidity risk concepts.
 - Describe and analyze credit, counterparty, liquidity, and wrong-way risk.
 - Assess and critique results of various credit and liquidity models for their impact on decision making
 - Assess credit value adjustment
- b) Assess and critique credit and liquidity risk metrics for their impact on risk strategies, their uses in risk management and decision making
- c) Explain how regulatory requirements impact exposure, regulatory capital and management of credit and liquidity risks.

- Counterparty Credit Risk, Gregory, Jon, 2nd edition
 - o Ch. 1-4, 5.1, 6.1 (Background)
 - o Ch. 7.1, 8.1-8.7, 9.1-9.5, 10.1-10.2, 11.1-11.4, 12.1-12.6, 15.1-15.6, 16.1-16.4 and 17.1-17.6
- SDM-106-13: Chapters 5-6 of *Credit Risk Measurement In and Out of the Financial Crisis,* 3rd Edition by Saunders and Allen
- SDM-107-13: Chapter 17 of *Financial Institutions Management: a Risk Management Approach,* 2010 7th edition, by Saunders and Cornett.
- SDM-108-13: Chapters 2 and 3 of *Liquidity Risk Measurement and Management*, Matz and Neu
- SDM-134-14: Solid as a Rock?
- SDM-135-14: Solving the Financial and Sovereign Debt Crisis in Europe
- SDM-140-14: Interest Rate Swaps- An Exposure Analysis

3. Topic: Capital Management and ERM Process

Learning Objectives

The candidate will understand best practices for ERM processes and Capital Management and their use in setting a risk-return strategy.

Learning Outcomes

The Candidate will be able to:

- a) Explain ERM principles and frameworks
 - Describe the best practices and frameworks for ERM processes under various industry forums and regulatory guidelines and standards.
 - Explain the principles driving the direction of new regulation and industry standards in risk governance.
 - Describe the components of a risk appetite statement. Design and develop a risk appetite statement and risk-return strategy.
- b) Explain ERM and capital management concepts to evaluate and recommend corporate financial and ERM decisions.
 - Apply capital allocation models to a multi-line organization.
 - Compare and contrast various ERM and Capital Management frameworks as to their ability to assess value and articulate the risk-return strategy of an organization.
 - Evaluate the value-added for an organization by jointly evaluating risk measurement and capital allocation.
 - Assess how an ERM process can improve capital efficiency and articulate the risk-return strategy.

- Strategic Management: Competitiveness and Globalization, Concepts, Hitt, Michael, Ireland, Duane, and Hoskisson, Robert, 11th Edition. Candidates may also use the 10th Edition. Same chapter references apply.
 - Ch. 10, Corporate Governance
- SDM-101-13: Oliver Wyman: Hidden Hedge Fund in Insurers
- SDM-105-13: The European Insurance CFO Forum Market Consistent Embedded Value Principles
- SDM-110-13: ASB ASOP 46 Risk Evaluation in Enterprise Risk Management (pages 1-11)
- SDM-111-13: Quantitative Risk Management
 - Chapter 2.2 (Risk Measurement) background
 - Chapter 6.1 (Coherent Measures of Risk)
 - Chapter 6.3 (Capital Allocation)
- SDM-113-13: Revisiting the Role of Insurance Company ALM within a Risk Management Framework
- SDM-136-14: The Common Link in Failures and Scandals at the World's Leading Banks

- SDM-137-14: The LIBOR Scandal (excluding footnotes)
- SDM-141-15: Managing the Invisible: Identifying Value-Maximizing Combinations of Risk and Capital
- SDM-143-15: NAIC 2014 ORSA Guidance Manual
- <u>Economic Capital: A Case Study to Analyze Longevity Risk</u>, *Risk Management*, September 2010
- <u>Solvency II and US Equivalence</u>, *The Financial Reporter*, June 2011
- <u>Risk Appetite Statements: What's on your Menu?</u>, Risk Management, June 2009
- How is Your Risk Appetite These Days?, Risk Management March 2012
- The Full Spectrum of Risk Attitude, The Actuary Aug/Sept 2010
- <u>Risk Appetite for Variable Annuities: Managing the "Three Headed Monster" Challenging</u> <u>Variable Annuity Writers</u>, *Risk Management*, September 2010
- Ozrisk.com Blog–Bank Capital Allocation etc.
- <u>Risk Appetite: Linkage with Strategic Planning</u>

4. Topic: The Decision Making Process

Learning Objectives

The candidate will understand organizational behavioral concepts and apply strategic management frameworks to corporate financial and ERM business problems.

Learning Outcomes

The Candidate will be able to:

- a) Apply organizational behavior concepts
 - Describe the communication process and explain the strategic importance of communication to organizations.
 - Describe the fundamentals of decision making and explain decision-making styles and influences.
 - Describe common types and causes of organizational conflict and apply the elements of a basic negotiation process.
 - Assess how the behavior of individuals and groups in organizations drives organizational decisions and performance;
- b) Evaluate and apply the concepts of strategic management, recognizing the factors that affect the development and implementation of strategies:
 - Demonstrate the importance of analyzing the firm's external environment and the internal organization.
 - Define types of business-level strategies and recommend an appropriate business-level strategy for a given situation.
 - Explain the impact of competitive dynamics on strategic management.
- c) Use organizational behavior and strategic management concepts to evaluate and recommend corporate financial and ERM decisions.

- Organizational Behavior: A Strategic Approach, Hitt, Michael, Miller, C. Chet, and Colella, John Wiley & Sons, 3rd Edition. Candidates may also use the 4th Edition. The same chapter references apply.
 - Ch. 9, Communication
 - Ch. 10, Decision making by individuals and groups
 - Ch. 11, Groups and Teams
 - Ch. 12, Conflict, Negotiation, Power and Politics
- Strategic Management: Competitiveness and Globalization, Concepts, Hitt, Michael, Ireland, Duane, and Hoskisson, Robert, 11th Edition. Candidates may also use the 10th Edition. The same chapter references apply.
 - o Ch. 1, Strategic Management and Strategic Competitiveness
 - Ch. 2, External Environment: Opportunities, Threats, Industry Competition, and Competitor Analysis
 - Ch. 3, Internal Organization: Resources, Capabilities, Core Competencies and Competitive Advantages

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- Ch. 4, Business-Level Strategy
- Ch. 5, Competitive Rivalry and Competitive Dynamics
- Ch. 6, Corporate-Level Strategy
- SDM-138-14: When and When *Not* to Vertically Integrate

5. Topic: Case Studies and Strategic Risk Management

Learning Objectives

The candidate will understand the decision making process and the lessons learned from the risk taking activities and experiences of other organizations. In particular, the candidate will be able to apply the learning objectives of all the prior sections of the syllabus to the risk management principles embodied within the case studies explored in this section.

Learning Outcomes

The Candidate will be able to:

- a) Critique financial models, assumptions and decisions including the impact of behavioral finance concepts.
- b) Evaluate the robustness and flexibility of the risk management framework and recommend approaches for continual improvement in the framework and processes.
- c) Assess the risk of the status quo alongside any other risky and or risk management decision.

- Nudge: Improving Decisions about Health, Wealth and Happiness, Thaler, Richard and Sunstein, Cass
 Ch. 1-5
- SDM-115-13: Chapter 12 of *Investments*, 9th Edition
- SDM-116-13: Duckworth Asset Management Inc.
- SDM-117-13: Managing Risk in the New World
- SDM-118-13: The Six Mistakes Executives Make in Risk Management
- SDM-119-13: The Role of the Audit Committee in Risk Oversight
- SDM-120-13: Ping An's Overseas Expansion: Financial Uncertainties and Risk Management
- SDM-121-13: British Petroleum (PLC) and John Browne: A Culture of Risk Beyond Petroleum
- SDM-122-13: Enterprise Risk Management at Hydro One, Multimedia Case
- SDM-123-13: Understanding the Risk of the Status Quo
- SDM-124-13: Air Canada Risk Management
- SDM-125-13: JP Morgan Private Bank: Risk Management during the Financial Crisis 2008- 2009
- SDM-126-13: Managing the Multiple Dimensions of Risk-Part II the Office of Risk Management
- SDM-127:13: Nephila: Innovation in Catastrophe Risk Insurance
- SDM-135-14: Solving the Financial and Sovereign Debt Crisis in Europe
- SDM-136-14: The Common Link in Failures and Scandals at the World's Leading Banks
- SDM-137-14: The LIBOR Scandal (excluding footnotes)
- SDM-139-14: Disney's "the Lion King" (A): The \$2 Billion Movie
- <u>Are Black Swans Real?</u>, *The Actuary*, April/May 2013