Quant Finance Interviews

Financial Engineering Interview Prep

COURSE BY [WWW.QCFINANCE.IN](http://www.qcfinance.in)

[HTTP://QCFINANCE.IN/FINANCIAL-ENGINEERING-INTERVIEW-PREP/](http://qcfinance.in/financial-engineering-interview-prep/)

SESSION BY SHIVGAN JOSHI

- What do you know about Our Company?
- What can you do for Our Company?
- Why do you want to work for Our Company?
- Henry Paulson – Treasury secretary

Interview Quant Hedge Fund

Three rounds

1 hours per round

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- Three Parts:

1. Excel Questions – Rank adjustment, MC vs Normal Distributions; implied volatility; creating checks using data validation
2. Pricing – Fixed Income, from Bloomberg screenshot, convertible bonds
3. Probability Questions - person retiring (were from actuarial exam); age of people;

Insurance Inv Analyst Interview

45 min Telephonic round

- Probability questions
- Factor Analysis
- Mathematical language
- Yield curve
- Policy of central bank
- Dice questions
- R-square on flipping X and Y
- Non stationary series – CFA L2 – if they are behaving in same way we can use the time series – using the returns not the number

* study this

FAQ

- What is Brownian Motion and what are its uses in finance?
- Ten Different Ways to Derive Black–Scholes
- What is Ito's lemma?
- What is Maximum Likelihood Estimation?
- What is cointegration?
- What is closed-form solutions?
- What is a jump-diffusion model and how does it affect option values?
- What is the finite-difference method?
- What are copulas?
- What is the asymptotic analysis?

Three Dimensions of Inteview

- Programming: Asked me about encapsulation and polymorphism – OOPS – C++ recepies?
- Probability: If I toss a fair coin 400 times and biased coin 80/100 heads chances, what is the probability that I got a biased coin I get 220 heads?
- Finance Questions – BS Derivatives Greeks Exotic options
- Fixed income is 80% of their investment so interest rate become most imp

Based on your profile

- Problems in regression
- Examples of Monte Carlo
- VBA Codes
- C++
- MATLAB Interest rate models – Derivative toolboxes

Reading List

Stochastic Differential Equations: An Introduction with Applications, B. Oksendal (ISBN: 3540047581)

• Financial Calculus: An Introduction to Derivative Pricing, Martin W. Baxter, Andrew J. O. Rennie

(ISBN 0521552893)

• Efficient Methods for Valuing Interest Rate Derivatives (Springer Finance S.), Anton Pelsser (ISBN 1852333049)

• Pricing and Hedging of Derivative Securities, Lars Tyge Nielsen (ISBN 0198776195)

• A First Course in Probability (International Edition), Sheldon Ross (ISBN 0131218026) - Don't be offended by the

title !!! – packed with good 'applied' problems to solve of the type asked in interviews

• Beginning C++: The Complete Language, Ivor Horton (ISBN: 1590592271)

• Effective C++: 50 Specific Ways to Improve Your Programs and Design (2nd Edition), Scott Meyers

(ISBN 0201924889)

The 25 Best-Selling Books For Quants

1- A Primer for the Mathematics of Financial Engineering, 2nd Ed - Dan Stefanica
2- Solutions, Primer For The Mathematics Of Financial Engineering, 2nd Ed - Dan Stefanica
3- Quant Job Interview Questions And Answers– Mark Joshi
4- Fifty Challenging Problems in Probability with Solutions – Frederick Mosteller
5- The Complete Guide to Capital Markets for Quantitative Professionals
6- My Life as a Quant: Reflections on Physics and Finance – Emanuel Derman
7- Heard on The Street: Quantitative Questions from Wall Street Job Interviews - Timothy Crack
8- Frequently Asked Questions in Quantitative Finance - Paul Wilmott
9- A Practical Guide To Quantitative Finance Interviews – Xinfeng Zhou
10- Liar's Poker - Michael Lewis
11- Cracking the Coding Interview: 150 Programming Questions and Solutions - Gayle Laakmann McDowell
12- How I Became a Quant: Insights from 25 of Wall Street's Elite - Richard R. Lindsey
13- Problem Solving with C++, 8th Edition - Walter Savitch
14- Options, Futures and Other Derivatives (8th Edition) - John Hull
15- Stochastic Calculus for Finance I: The Binomial Asset Pricing Model - Steven Shreve
16- Paul Wilmott on Quantitative Finance 3 Volume Set (2nd Edition) - Paul Wilmott
17- Stochastic Calculus for Finance II: Continuous-Time Models - Steven Shreve
18- Principles of Financial Engineering, 2nd Edition - Salih Neftci
19- C++ Design Patterns and Derivatives Pricing - Mark Joshi
20- C++ Primer Plus - Stephen Prata
21- The Big Short: Inside the Doomsday Machine - Michael Lewis
22- When Genius Failed: The Rise and Fall of Long-Term Capital Management - Roger Lowenstein
23- Starting Your Career as a Wall Street Quant - Brett Jiu
24- Reminiscences of a Stock Operator - Edwin Lefevre
25- The Quants: How a New Breed of Math Whizzes Conquered Wall Street and Nearly Destroyed It - Scott Patterson

Paul Wilmott on Quantitative Finance

- 1400 pages

Roles

Quant Questions

- Maths
- Probability distribution – Coin

- C++ and data structures, finance, brainteasers, and stochastic calculus