# List of High-Yield Questions for Level II

**We have identified the most important practice problems from the curriculum that you must do.**
**Ideally you should do all practice problems, but if you are time constrained you should at least do the questions on this list.**
**As part of your final revision review these questions again to reinforce key concepts.**

**Note: In the table below PP refers to the Practice Problem which you will find at the end of each reading in the curriculum.**
**In some cases curiculum examples are referred to and in some cases the IFT Q-bank is referred to.**

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## Topic Quantative Methods

**IFT strongly recommends that you do all the practice problems in the curriculum, but if you are severely time constrained do at least the following.**

| Reading | Question # | Concept Tested |
|---|---|---|
| **Fintech** | PP1 | Fintech |
| | PP2 | Big data |
| | PP3 | Machine learning |
| | PP4 | Text analytics |
| | PP5 | Robo- advisory services |
| | PP6 | Risk analysis |
| | PP7 | Algorithmic trading |
| | PP8 | DLT |
| | PP9 | DLT |
| Correlation and Regression | **PP5 - PP10** | |
| | PP5 | Coefficient of determination = R-squared |
| | PP6 | Effect of deleting observations on R-Squared and SEE |
| | PP7 | Correlation coefficient = Multiple R |
| | PP8 | F - Stat formula |
| | PP9 | Predicting independent variable using regression equation |
| | PP10 | Interpreting p-values |
| | **PP11 - PP16** | |
| | PP11 | Testing the significance of the correlation coefficient |
| | PP12 | Time series vs cross sectional data |
| | PP13 | Predicting independent variable using regression equation |
| | PP14 | Interpreting R-squared |
| | PP15 | Interpreting SEE |
| | PP16 | Interpreting t-stats |
| | **PP17 - PP26** | |
| | PP17 | Scatter plots |
| | PP18 | Calculating sample covariance |
| | PP19 | Calculating sample correlation |
| | PP20 | Interpreting regression results |
| | PP21 | Dependent vs independent variable |
| | PP22 | Degrees of freedom |
| | PP23 | Calculating confidence intervals |
| | PP24 | Interpreting t-stats |
| | PP25 | Predicting independent variable using regression equation |
| | PP26 | Calculating F-stat |
| | **PP17 - PP22** | |
| | PP17 | Predicting independent variable using regression equation |
| | PP18 | Confidence interval for the regression coefficient |
| | PP19 | Testing the significance of the correlation coefficient |
| | PP20 | Interpreting multiple R-squared |
| | PP21 | Problems in regression analysis - Heteroskedasticity |
| | PP22 | Model misspecification issues - omitted variable |
| | **PP29 - PP36** | |
| | PP29 | Calculating F-statistic |
| | PP30 | Qualitative independent variables - interpreting coefficients |
| | PP31 | Problems in regression analysis - multicollinearity |
| | PP32 | Qualitative independent variables - setting up the model |

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|---|---|---|
| Multiple Regression and Machine Learning | PP33 | Problems in regression analysis - Heteroskedasticity |
| | PP34 | Effects of positive serial correlation |
| | PP35 | Durbin–Watson statistic |
| | PP36 | Qualitative dependent variables - when to use probit and logit models |
| | **PP37 - PP45** | |
| | PP37 | Testing the significance of the correlation coefficient |
| | PP38 | Interpreting p-values |
| | PP39 | Interpreting p-values |
| | PP40 | Predicting independent variable using regression equation |
| | PP41 | R-squared and adjusted R-squared |
| | PP42 | Interpreting F-stat |
| | PP43 | Interpreting F-stat |
| | PP44 | Assumptions of multiple regression |
| | PP45 | Adjusted R-squared |
| | **Example 17** | Major types of machine learning |
| | 1 | Classification problem vs regression problem |
| | 2 | Penalized regression |
| | 3 | CART |
| | 4 | Neural networks |
| | 5 | Clustering |
| | 6 | Dimension reduction |
| Time-Series Analysis | **PP20 - PP26** | |
| | PP20 | Forecasting using a linear trend model |
| | PP21 | Forecasting using a log linear trend model |
| | PP22 | Interpreting the Durbin–Watson statistic |
| | PP23 | Covariance stationary time series |
| | PP24 | Forecasting using the chain rule |
| | PP25 | Interpreting autocorrelations in an AR model |
| | PP26 | Mean-reverting level |
| | **PP27 - PP35** | |
| | PP27 | Properties of random walk & covariance stationary time series |
| | PP28 | Covariance stationary time series |
| | PP29 | Unit root |
| | PP30 | Dickey–Fuller test |
| | PP31 | Interpreting autocorrelations in an AR model |
| | PP32 | Forecasting using a first differenced model |
| | PP33 | ARCH |
| | PP34 | Working with two time series |
| | PP35 | Selecting an appropriate time series model |
| Simulations | **Online assessment - Jason Yang Case Scenario** | |
| | Q1 | To compare scenario analysis with simulations |
| | Q2 | To define prob distribution for the variables |
| | Q3 | How to treat correlation across variables? |
| | Q4 | To define the probability distribution for the simulation variables |
| | Q5 | To explain the results of a simulation |
| | Q6 | What are the issues in simulation? |

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**Topic Economics**

**IFT strongly recommends that you do all the practice problems in the curriculum, but if you are severely time constrained do at least the following.**

| Reading | Question # | Concept Tested |
|---|---|---|
| Currency Exchange Rates: Determination and Forecasting | **PP6 - PP12** | |
| | PP6 | Uncovered interest rate parity |
| | PP7 | Flow supply/demand channel |
| | PP8 | Portfolio balance approach |
| | PP9 | Mundell-Fleming model |
| | PP10 | Portfolio- balance approach |
| | PP11 | Capital control and central bank intervention |
| | PP12 | Warning signs of a currency crisis |
| | **PP13 - PP20** | |
| | PP13 | Bid-offer spread |
| | PP14 | Factors affecting bid-offer spread |
| | PP15 | Triangular arbitrage profit |
| | PP16 | Forward contract - mark to market |
| | PP17 | Covered interest rate parity interpretation |
| | PP18 | Calculating forward points using covered interest rate parity |
| | PP19 | International parity conditions |
| | PP20 | International parity conditions |
| Economic Growth and the Investment Decision | **PP7 - PP15** | |
| | PP7 | Factors favoring and limiting economic growth |
| | PP8 | Capital deepening investment and technological progress |
| | PP9 | Sustainable growth rate of the economy |
| | PP10 | Potential GDP |
| | PP11 | Capital deepening investment and technological progress |
| | PP12 | Demographic factors |
| | PP13 | Natural resources |
| | PP14 | Demographics, immigration, and labor force participation |
| | PP15 | Convergence hypotheses |
| Economics of Regulation | **PP7 - PP13** | |
| | PP7 | Classification of regulators |
| | PP8 | SRO |
| | PP9 | 'Unintended' implementation cost |
| | PP10 | Regulatory tools |
| | PP11 | Regulatory competition |
| | PP12 | Regulation of commerce |
| | PP13 | Regulatory tools |

## Topic Alternative Investments

**IFT strongly recommends that you do all the practice problems in the curriculum, but if you are severely time constrained do at least the following.**

| Reading | Question # | Concept Tested |
|---|---|---|
| Private Real Estate Investments | **PP1 - PP12** | |
| | PP1 | Interpreting NOI |
| | PP2 | Real estate valuation - misc items |
| | PP3 | Calculating growth rate |
| | PP4 | Discounted cash flow method |
| | PP5 | Direct capitalization method |
| | PP6 | Sales comparison approach |
| | PP7 | Due diligence |
| | PP8 | All cash purchase v/s used of debt |
| | PP9 | Calculating maximum loan amount |
| | PP10 | Benefits of private equity real estate investments |
| | PP11 | Sources of risk for real estate investments |
| | PP12 | Real estate investment: Basic forms |
| Publicly Traded Real Estate Securities | **PP1 - PP6** | |
| | PP1 | REITs v/s REOCs |
| | PP2 | Net asset value approach |
| | PP3 | Relative valuation using property subsector average P/FFO multiple |
| | PP4 | Discounted cash flow valuation using a two- step dividend model |
| | PP5 | Relative valuation using property subsector average P/AFFO multiple |
| | PP6 | Principal risk factors for REITs |
| | **PP7 - PP12** | |
| | PP7 | Investment characteristics of REITs |
| | PP8 | Disadvantages of REITs |
| | PP9 | Economic value determinants for different types of REITs |
| | PP10 | Adjusted funds from operations (AFFO) |
| | PP11 | Relative value approach - P/FFO multiple |
| | PP12 | Discounted cash flow approach - 2 step model |
| Private Equity Valuation | **PP7 - PP12** | |
| | PP7 | Valuation characteristics of buyout vs. venture capital investments |
| | PP8 | Alignment of interests |
| | PP9 | Evaluating fund performance |
| | PP10 | Evaluating fund performance |
| | PP11 | Exit routes |
| | PP12 | Valuation issues in buyout and venture capital transactions |
| | **PP13 - PP18** | |
| | PP13 | Valuation characteristics of buyout vs. venture capital investments |
| | PP14 | Value creation in buyout firms |
| | PP15 | Distribution waterfall |
| | PP16 | Calculating total value to paid- in capital (TVPI) |
| | PP17 | Calculating carried interest |
| | PP18 | Evaluating fund performance |
| Commodity and Commodity Derivatives: An Introduction | **PP1 - PP8** | |
| | PP1 | Commodity futures market participants |
| | PP2 | Characteristics of commodity sectors |
| | PP3 | Valuation of commodities |
| | PP4 | Backwardation |
| | PP5 | Theories explaining futures returns |
| | PP6 | Roll returns |
| | PP7 | Calculating total return |
| | PP8 | Total return swap |