



Topic	Quantitative 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 PP2 PP3 PP4 PP5 PP6 PP7 PP8 PP9	Fintech Big data Machine learning Text analytics Robo-advisory services Risk analysis Algorithmic trading DLT DLT
Correlation and Regression	PP5 - PP10	Coefficient of determination = R-squared Effect of deleting observations on R-Squared and SEE Correlation coefficient = Multiple R F - Stat formula Predicting independent variable using regression equation Interpreting p-values
	PP11 - PP16	Testing the significance of the correlation coefficient Time series vs cross sectional data Predicting independent variable using regression equation Interpreting R-squared Interpreting SEE Interpreting t-stats
	PP17 - PP26	Scatter plots Calculating sample covariance Calculating sample correlation Interpreting regression results Dependent vs independent variable Degrees of freedom Calculating confidence intervals Interpreting t-stats Predicting independent variable using regression equation Calculating F-stat
	PP17 - PP22	Predicting independent variable using regression equation Confidence interval for the regression coefficient Testing the significance of the correlation coefficient Interpreting multiple R-squared Problems in regression analysis - Heteroskedasticity Model misspecification issues - omitted variable
	PP29 - PP36	Calculating F-statistic Qualitative independent variables - interpreting coefficients Problems in regression analysis - multicollinearity Qualitative independent variables - setting up the model Problems in regression analysis - Heteroskedasticity Effects of positive serial correlation Durbin-Watson statistic Qualitative dependent variables - when to use probit and logit models
	PP37 - PP45	Testing the significance of the correlation coefficient Interpreting p-values Predicting independent variable using regression equation R-squared and adjusted R-squared Interpreting F-stat Interpreting F-stat Assumptions of multiple regression Adjusted R-squared
Multiple Regression and Machine Learning		

	<b>Example 17</b> 1 2 3 4 5 6	Major types of machine learning Classification problem vs regression problem Penalized regression CART Neural networks Clustering Dimension reduction
	<b>PP20 - PP26</b> PP20 PP21 PP22 PP23 PP24 PP25 PP26	Forecasting using a linear trend model Forecasting using a log linear trend model Interpreting the Durbin–Watson statistic Covariance stationary time series Forecasting using the chain rule Interpreting autocorrelations in an AR model Mean-reverting level
Time-Series Analysis	<b>PP27 - PP35</b> PP27 PP28 PP29 PP30 PP31 PP32 PP33 PP34 PP35	Properties of random walk & covariance stationary time series Covariance stationary time series Unit root Dickey–Fuller test Interpreting autocorrelations in an AR model Forecasting using a first differenced model ARCH Working with two time series Selecting an appropriate time series model
Simulations	<b>Online assessment - Jason Yang Case Scenario</b> Q1 Q2 Q3 Q4 Q5 Q6	To compare scenario analysis with simulations To define prob distribution for the variables How to treat correlation across variables? To define the probability distribution for the simulation variables To explain the results of a simulation What are the issues in simulation?



**Topic      Economics**

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



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