ELECTIVE COURSES (Two courses in the semester)

Group 1- Finance and Taxation Stream

Course Code	CM800401
Title of the Course	**DERIVATIVES AND RISK MANAGEMENT**
Semester	**Four**
Type	**Core-Elective**
Credits	**4**
Hours	**6 per week and Total 108**

Objectives of the Course:

To familiarize the students with the derivative markets and its evolution, compare and evaluate the performance of different forward, futures and options contracts and understand the various future and option pricing models.

Course Outcome No	Expected Course Outcome	Cognitive Level	Programme Specific Outcome Linkage
1	Knowledge about the derivative market in India, its evolution, types, players, risks involved and basic quantitative foundations	Remember and Apply	**PSO4, 6**
2	Analyze the implications of Risk in the perception of individuals and Institutions and measurement of risks	Analyse and Apply	**PSO4, 6**
3	Understand and explain the concept of forward market and its function ,	Understand	**PSO4, 6**
4	Analyse the operation and pricing of various types of futures	Analyse, Creative	**PSO4, 6**
5	Understand the concepts and methodology of option trading and apply the models of pricing the option contracts	Understand, analyse and Creative	**PSO4, 6**
6	Develop an idea of exchanges through swaps	Understand and apply	**PSO4, 6**

Unit wise Distribution of the Course

Module	Sl. No. of Units	Contents of the Unit	Remarks
Module 1: Introduction to Derivatives – 10 hours			
1	1.1	Derivatives – meaning – types of derivatives – evolution – economic benefit of derivatives – classification of derivatives – limitations	Theory
	1.2	derivatives market – history of derivatives – participants in derivatives market – functions of derivatives market –	Theory

	1.3	derivatives market in India – evolution, growth and development- Legal framework for Indian derivative markets	Theory
	1.4	quantitative foundations for derivatives – time value money – discounting and compounding techniques – continuous compounding	Theory and Problems
Module 2: Risk – 10 hours			
2	2.1.	Risk in different markets (Commodity, Currency, and security market) – implications of risk – risk perception of individual and institutions –	Theory
	2.2	Measurement of risk – Value at Risk – Applications, uses and limitations of VaR – Risk Management using derivatives	Theory and Problems
Module 3: Forward Contracts – 20 hours			
3	3.1	Forward – meaning – features of forward contract – classification of forward contract – Forward prices – determination of forward prices (Theory and Problems)	Theory and Problems
	3.2	Currency forwards – exchange rate quotation – direct and indirect rate – bid and offer rate – spot rate and forward rate – foreign exchange risk –	Theory
	3.3	Hedging through forwards – speculation – Interest rate parity- Covered interest arbitrage- option forward deals – closing forward contracts – currency forwards and banks – advantages and disadvantages of forwards.	Theory
Module 4: Futures Contracts – 30 hours			
4	4.1	Futures contract – features – forward vs. futures – delivery terms – long and short positions – open interest – types of futures – uses of futures –	Theory
	4.2	trading mechanism – margin money requirements – basic concepts of futures pricing	Theory
	4.3	models of futures pricing – cost of carry model in perfect market environment and imperfect market environments (theory and problems) – deviations from cost of carry model	Theory
	4.4	Expectations model– Normal Backwardation model –	Theory
	4.5	Commodity futures trading mechanism – Commodity futures market in India – Important commodity exchanges in India –	Theory
	4.6	Currency futures – clearing and settlement – use of currency futures –	Theory
	4.7	Interest rate futures- Functions	Theory
	4.8	Operation of stock / index futures in India – specifications of futures contracts traded in BSE and NSE –	Theory
	4.9	Problems involving various types of futures-	Theory and Problems

Module 5: Options and Swaps – 30 hours			
5		5.1	Options – types – uses – basic concepts & terminologies – value of options – intrinsic value and time value – option positions – pay off – combination of options – Tunnels, spreads-exotic options , lookback, barrier, compound, Asian options	Theory
		5.2	Option trading – option trading strategies – Basics, Spreads and Combinations- Straddle, Strangle, Straps and Strips, Butterfly	Theory
		5.3	Options trading in India – specifications of options contracts traded in BSE and NSE – Options in commodity markets	Theory
		5.4	Numerical problems related to exercise of options, profits or loss to investors etc	Theory and Problems
		5.5	Option pricing – determinants of option pricing – put call parity theory	Theory and Problems
		5.6	models of option pricing – Black-Scholes model – assumptions – notations – calculation of option price – Pricing of European options and American options (theory and problems) –	Theory and Problems
		5.7	Binomial model of option pricing – assumptions – methodology (theory and problems) –	Theory and Problems
Module 6: Swaps – 8 hours			
6		6.1	Swaps – features – classification – Interest rate and Currency Swaps- Mechanism of swaps-	Theory
		6.2	Swapping through intermediaries – economic motives for swaps-Swaptions – Advantages and Disadvantages of swaps	Theory

Suggested Assignments:
1. Evaluate the performance of different derivatives market
2. Check the efficiency of option pricing using real data from the market

Recommended Text Books
1. Commodities and Financial Derivatives, S. Kevin, PHI Learning Pvt. Ltd
2. Financial Derivatives, SSS Kumar, PHI Learning Pvt. Ltd.
3. Fundamentals of Financial Derivatives, Prafulla Kumar Swain, Himalaya Publishing House
4. Financial Derivatives- Theory, Concepts and Problems, S L Gupta, Prentice Hall of India.
5. Fundamentals of Financial Derivatives, N R Parasuraman, Wiley India.

References
1. Options , Futures and Other Derivative securities, John C. Hull, PHI
2. Financial Derivatives, An Introduction to Futures, Forwards, Options and Swaps, Keith Redhead, PHI

Break up of Theory and Problems for Examination

Section A-   8 Theory 2 problems
Section B – 5 Theory 3 Problems
Section C-   3 Theory and 1 Problem