

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI**  
**INSTRUCTION DIVISION**  
**FIRST SEMESTER 2016-17**  
**Course Handout Part II**

Date: 02/08/2016

In addition to Part-I (General Handout for all courses appended to the timetable) this portion gives further specific details regarding the course.

**Course No.** : ECON F354/FIN F311

**Course Title** : Derivatives & Risk Management

**Instructor-in-charge** : ARUN KUMAR VAISH

**1. Scope & Objective:**

The objective of the course is to provide knowledge about derivatives and mechanics of derivative market. The course includes understanding of interest rate, term structure, and time value of money, pricing of bonds, computation of yield, bond-price volatility, duration, modified duration and convexity. The course covers option pricing and the variables affecting option pricing. Students are exposed to various types of risks namely Market Risk, Credit Risk, Operational Risk, Liquidity risk & Model Risk.

**3. Text book:**

Futures, Options and Other Derivatives by John C Hull, 9<sup>th</sup> Edition

**4. Reference books:**

R1. David A. Dubrofsky and Thomas W. Miller, Jr., Derivatives Valuation and Risk Management, Oxford University Press.

R2. David G. Luenberger, Investment Science, Oxford University Press

**5. Course Plan:**

Lecture No.	Learning Objectives	Topics to be covered	Reference (Chapter number)
1-2	Overview of Derivatives	Types of Business Risk , Derivatives , Distinguishing Features of Hedging with Derivatives, Derivative Products, Types of Derivatives , Participants in Derivative Markets , Functions of Derivative Markets, players and instruments.	Chapter-1& 2 class notes.
3-20	Forwards, Futures, Option and Swaps	Pricing and cost of carry in case of future & forwards. Bonds basics and dynamics of bond price. Forward rates and its role in anticipating term structure. Various determinants of bond prices: term, yield and coupon. Binomial option pricing & Black Scholes option pricing formula	Class notes+ Chapter-3-7 and 10-15

21-30	Options Greeks, Risks and their management	Types of risks. Risk management using forward & futures. Hedging.	Class notes+ Chapter-19, 22 & 25
31-40	Introduction to fixed income securities. Learning relationship between bond price and yield.	Concept of interest rates, time value of money, concept of discounting, annuities & term-structure.	Class notes
41-42	Exotic Options	Understanding of non-standard tailor-made options.	Chapter-26

#### 6. Evaluation Scheme:

EC No.	Component	Duration	Weight age	Date, Time & Venue	Nature of Component
1.	Mid-Semester		30	3/10 2:00 - 3:30 PM	CB
2.	Announced Quizzes-2		30		CB
3.	Comprehensive		40	2/12 FN	OB

7. **Chamber Consultation Hour:** 3 PM -Wednesday

8. **Notice:** All notices will be displayed on **Economics & Finance Notice Board.**

**Instructor-In-Charge**