PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
Siddhartha Nagar, Vijayawada–520010
Re-accredited at 'A+' by the NAAC

22 BA423: Commodity Markets & Derivatives

Subject Code:	**20BA423**	I A Marks	30
No. of Lecture Hours / Week	05	End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03
Course Focus	**Employability**	**E**ntrepreneurship	**S**kill Development

Course Objective: to create awareness about the derivative financial instruments and their application in vibrant commodity/financial markets.

Course Outcomes	
By the end of the course, the students will be able to:	
CO1	Understand the derivative products and the development of derivative trading in India. PSO1
CO2	Apply derivative products and hedging strategies. PSO 2
CO3	Apply option trading strategies suitable to market movement. PSO2
CO4	Compute option price (premium) using binomial model and BS model. PSO1
CO5	Design SWAP deals & Credit derivatives. PSO2

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3-High, 2-Medium, 1-Low, 0 - Nil)								
22BA411		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
	CO1	3	0	2	0	0	0	0
	CO2	0	3	0	0	0	0	3
	CO3	0	3	0	0	0	0	3
	CO4	0	3	0	0	0	0	3
	CO5	0	3	2	0	0	0	0

Units	Syllabus	No of Hrs
UNIT-I	**Financial Derivatives** – Concept – Definition – Nature – Functions – and Types of Derivative instruments – Different underlying assets – Types of Traders – Economic Role of Derivatives market(Overview), **Trading in Commodities in India** (Cash & Derivative Segment) Structure of Commodities Market in India, Commodity Exchanges in	**15**

	India & Abroad, Types of Commodities Traded –Participants in Commodities Market — Reasons for Investing in Commodities	
UNIT-II	**Futures and Forwards** – Meaning – Importance – Futures Exchanges– Clearing House and Margins – Futures Pricing – Stock Index Futures – Forwards Vs Futures – **Hedging strategy Using Future** – Basic Principle – Arguments for and Against Hedging –Basic Risk – Minimum Variance Hedge Ratio – Hedging through Stock Index Futures.	**15**
UNIT-III	**Options** – Meaning and Features of Options, option types – Equity Options – Currency Options – Benefits of Options – Specification of Stock Option - Mechanism of Option Trading, Commission **Option strategies** – Option Spreads, Straddles Strangles– and Margin.	**15**
UNIT-IV	**Option Pricing Models** – Factors Affecting Option Prices – Application of Option Pricing Models – Black-Scholes Model – Binomial Model – Implied Volatility, Option Greeks	**15**
UNIT-V	**Financial Swaps and Warrants** – FRAs, Swaps-Meaning and Uses – Types of Financial Swaps – Interest Rate Swaps – Currency Swaps – and Designing Swap deal – Warrants – Other Derivatives - Credit Derivatives – Exotic Options – and Derivative Mishaps.	**15**
	Case Study (Not Exceeding 300 words)	

Practical Component:

- Analyzing Various Derivative Contract Specifications from Exchanges
- Understanding the trading and settlement process
- Mark to Market Margin Calculation on Real time data from Exchanges
- Calculating the futures and options price with cost of carry – binomial and BS Models on real time data from Exchange &analyzing them with current market price
- Forming of different futures and options trading strategies with the real time data from Exchange
- Analysis and Management of risk using SWAPs
- Valuation of options and futures

Suggested Readings:

1. John Hull 2018– Fundamentals of futures & options 9th edition Pearson.
2. K. Sasidharan & Alex K. Mathews – Option trading - bull market strategies – McGraw Hill publication
3. Nandini Dr. Niti Chatnani 2016 – Commodity markets – McGraw Hill Publication
4. Robert McDonald 2005 – Derivatives Market 2nd edition – Pearson Education
5. Sankarshan Basu & John C. Hull 2022 Option, futures and other derivatives, 11e
6. Ankit Gala & Jitendra Gala – Guide to Indian Commodity market – Buzzing stock publishing house
7. S. Kevin 2015 – Commodities & financial derivatives 2ndedition, PHI learning Put ltd.
8. S. S. S. Kumar 2007-Financial Derivatives - PHI Learning Pvt. Ltd
9. S. L. Gupta 2005- Financial Derivatives: Theory, Concepts and Problems - PHI Learning Pvt. Ltd
10. Bharat Kulkarni 2011-Commodity Markets & Derivatives - Excel Books
11. Sundaram and Das 2013-Derivatives principles & practice, Indian edition Megrim Hill New Delhi.
12. Sundaram J 2011-Derivatives & Risk Management.

13.   Andrew Kasapis 2000 - Mastering Credit Derivatives First print Addison Weslay Longman

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MODEL QUESTION PAPER
M.B.A. (REGULAR) DEGREE EXAMINATION
FOURTH SEMESTER
22 BA 423 – Commodity Markets & Derivatives

Duration: 3hours   **Max. Marks: 70**

Note:
   1. This question paper contains three Sections- **Section- A Section -B and Section -C**.
   2. **Section -A** contains 5 short answer questions with an internal choice. Answer any **ALL** questions. Each question carries 4 Marks.
   3. **Section -B** contains 5 Essay questions with an internal choice from each unit. Each question carries 8 Marks.
   4. **Section** -**C** contains one Case Study for 10 Marks. (Compulsory)
   5. All **Sections** of the Question paper must be answered in one place.

SECTION-A

5 x 4= 20 Marks

			Bloom's Level	CO	Max Marks
1	a)	Explain Risk management in Derivatives trading	L2	CO1	4M
		(OR)			
	b)	Describe structure of commodity markets in India	L2	CO 1	4M
2	a)	Outline Clearing House function	L2	CO 2	4M
		(OR)			
	b)	Explain Hedging model	L2	CO 2	4M
3	a)	Outline the specification of stock options	L2	CO 3	4M
		(OR)			
	b)	explain straddle in options and its application	L2	CO 3	4M
4	a)	Outline Assumptions of BS model	L2	CO 4	4M
		(OR)			
	b)	Explain Option greeks	L2	CO 4	4M

			Bloom's level	CO	Max. Marks
5	a)	Discuss warrants and how it differ from options	L2	CO 5	4M
		(OR)			
	b)	Explain Currency Swap	L2	CO5	4M

SECTION -B

5 X 8=40 Marks

			Bloom's level	CO	Max. Marks
UNIT-I					
6	(a)	Explain the commodity exchanges operating in India and abroad and reasons for investing in commodities.	L3	CO1	8 M
		(OR)			
	(b)	Explain the economic function of derivatives market and growth of derivatives in India.	L3	CO1	8 M
UNIT-II					
7	(a)	Explain the differences between forwards and futures.	L3	CO2	8 M
		(OR)			
	(b)	Prepare a pay-off diagram for a buyer of a one-month future contract at a price of Rs.103/- of an underline stock. Select prices in between 75 and 135.	L4	CO2	8 M
UNIT-III					
8	(a)	"Call writers and put buyers exhibit bearish sentiments". Do you agree? Explain with payoff diagrams.	L4	CO3	8 M
		(OR)			
	(b)	What is Spread? Explain Bull and Bear spreads.	L3	CO3	8 M
UNIT-IV					
9	(a)	Calculate 3-month Call option premium of NTPC stock using BS model. The present stock price is 142 and strike price is 140. The volatility is 20% and risk free interest rate is 9%.	L4	CO4	8 M
	(b)	Explain the binomial model of option price valuation.	L3	CO4	8 M
UNIT-V					
10	(a)	Define Swap and explain plain vanilla swap.	L3	CO5	8 M
		(OR)			
	(b)	Explain credit derivatives and derivative disasters.	L4	CO5	8 M

PART-C

1X10=10 Marks

			Blooms level	CO	Max Marks
			CASE STUDY(Compulsory)		
11			L	CO	10 M

7. Design a swap deal for 'P' and 'Q' when they face the following interest rates without an intermediary P wants fixed rate of interest and Q wants floating rate of interest.

(CO5, L5)

Company	Fixed	Floating rate
P	8.75%	LIBOR + 0.75%
Q	6.25%	LIBOR + 0.25%