PVP24

Code No: **24BA4T6FA**

II MBA - II Semester - Regular Examinations – JUNE 2026

FINANCIAL DERIVATIVES

Duration: 3 Hours Max. Marks: 70

Note: 1. This question paper contains two Parts: Part-A and Part-B.
2. Part-A contains 5 essay questions with an internal choice from each unit. Each Question carries 12 marks.
3. Part-B contains one Case Study for 10 Marks.
4. All parts of Question paper must be answered in one place

BL – Blooms Level CO – Course Outcome

PART - A

			BL	CO	Max. Marks
		UNIT – I			
1.	a)	Define financial derivatives and explain their meaning with suitable examples.	L1	CO1	4 M
	b)	Outline the need and objectives of financial derivatives in modern financial markets.	L2	CO1	8 M
		OR			
2.		Explain the regulatory framework of derivatives trading in India with reference to Securities and Exchange Board of India.	L4	CO1	12 M

UNIT – II					
3.	a)	Differentiate between forward contracts and futures contracts.	L4	CO2	6 M
	b)	Explain interest rate futures and their importance in financial markets.	L2	CO2	6 M
OR					
4.		Explain different hedging strategies using in derivative contracts.	L3	CO2	12 M
UNIT-III					
5.	a)	Define the options market and explain its meaning and need in financial market.	L1	CO3	6 M
	b)	Outline the types of option contracts with suitable examples.	L2	CO3	6 M
OR					
6.		Analyse the operational framework of options contracts trading on Indian stock exchanges.	L4	CO3	12 M
UNIT – IV					
7.	a)	Explain the concept of volatility and its impact on option pricing.	L2	CO4	6 M
	b)	Identify and explain the causes of volatility in financial markets.	L2	CO4	6 M
OR					

8.	Consider the following data Calculate the value of call option as per Black-Scholes model Stock price: Rs.50 Months to expiration: 3 months Risk free rate of interest: 10% PA S.D of stock: 40% Exercise price: Rs.55 Option type: European call		L4	CO4	12 M
	UNIT – V				
9.	a)	Define swaps in derivatives market.	L1	CO5	3 M
	b)	Explain the structure and mechanism of the swaps in derivatives market with a diagram.	L3	CO5	9 M
	OR				
10.	Discuss currency swaps and explain how they help in managing foreign exchange risk.		L3	CO5	12 M

PART – B

	CASE STUDY	L5	CO1	10 M
11.	An Indian IT company expects to receive $1 million after 3 months from a US client. The company is concerned that the Indian Rupee may appreciate, reducing its revenue in INR. To manage this risk, the finance manager is considering using forwards, futures or options contracts. All such transactions are governed by Securities and			

	Exchange Board of India. 1. Identify the type of risk faced by the company. 2. Analyze which derivative instrument is most suitable for the company. 3. Explain how the selected derivative helps in hedging the risk.

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IIMBA-II Semester- Regular Examinations June, 2026

Financial Derivatives

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

Note:

1. this question paper contains three Parts-A, and Part-B
2. Part-A contains 5 short answer questions. Answer any Five Questions. Each Question carries 12 Marks.
3. Part-C contains one Case Study for 10 Marks.
4. All parts of Question paper must be answered in one place

SCHEME OF VALUATION

PART – A (5 x 12 = 60 Marks)			
UNIT-I			
1.	(a)	Meaning of Financial Derivatives	2 M
		Example for derivatives	2 M
	(b)	Meaning of Financial Derivatives	3M
		Need and importance of financial derivatives	3M
2.	(a)	Meaning of regulatory framework	6 M
		Role of SEBI in derivative regulation	6 M
3.	(a)	Meaning of forward contract and feature contract	2 M
		Difference between forward contract and feature contract	4 M
	(b)	Meaning of interest rate future	2M
		Importance of interest rate future	4 M
4.	(a)	Meaning of hedging	4 M
		Various hedging strategies	8M
5.	(a)	Meaning of option market	2 M
		Need for option market	4M
	(b)	Meaning of option market	2 M
		Types of options	4 M

6.	**(a)**	Meaning of option	4 M
		Operational framework of options contract trading	8 M
7.	**(a)**	Meaning of Volatility	2 M
		Impact of Volatility on option pricing	4 M
	(b)	Meaning of Volatility	2 M
		Causes for Volatility	4 M
8.	**(a)**	As a whole	12M
9.	**(a)**	Meaning of Swap	3M
	(b)	Meaning of swap	2 M
		Structure of Swap in diagram	7 M
10.	**(a)**	Meaning of currency Swap	4 M
		Role of Currency swap on managing foreign exchange risk	8 M
PART – B (1 x 10 = 10 Marks)			
11.		**As a whole**	10 M

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IIMBA-II Semester- Regular Examinations June, 2026

Financial Derivatives

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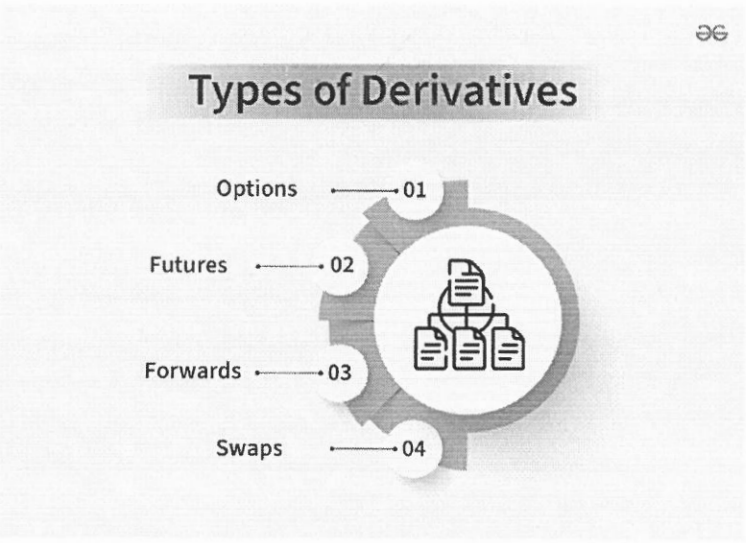
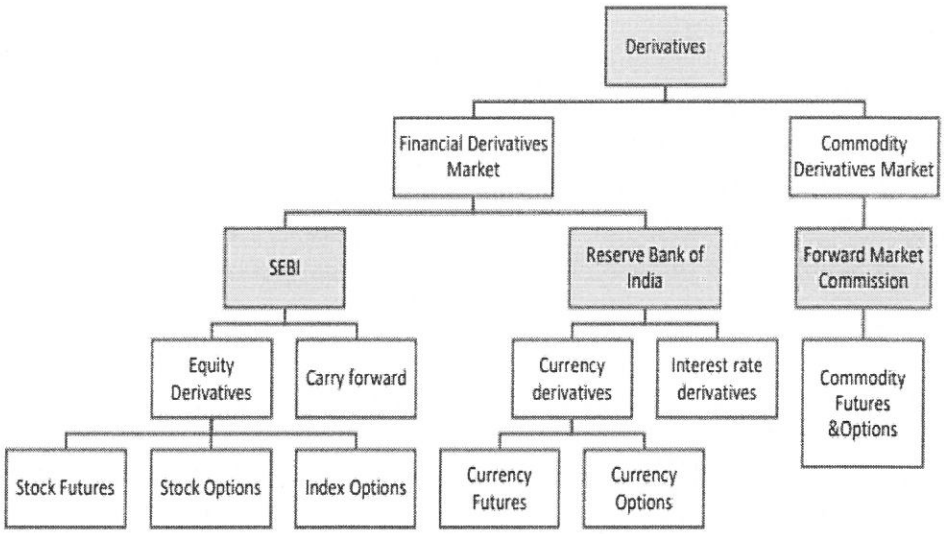
SCHEME OF VALUATION

PART – A (5 x 12 = 60 Marks)			
UNIT-I			
1.	**(a)**	**Meaning of Financial Derivatives** "Financial derivative a is financial contract based on an underlying asses" "Derivatives are financial contracts whose value depends on an underlying asset, like stocks, bonds, currencies, or commodities."	2M
		Example for derivatives 	2M

		Meaning of Financial Derivatives "Financial derivative a is financial contract based on an underlying asses" "Derivatives are financial contracts whose value depends on an underlying asset, like stocks, bonds, currencies, or commodities."	3M
	(b)	**Need and importance of financial derivatives** • **Risk Management (Hedging):** Derivatives act like financial insurance. They allow businesses and investors to lock in prices or interest rates to protect against adverse market fluctuations. For example, airlines use derivatives to hedge against surging fuel costs. • **Price Discovery:** Active trading in derivatives markets (like futures and options) helps establish fair market values for underlying assets. It incorporates future expectations, supply, and demand into today's prices. • **Leverage:** Derivatives allow traders to control a large position in an asset with a relatively small initial investment (margin), maximizing potential gains (though this also amplifies potential losses). • **Market Efficiency & Liquidity:** Derivatives provide high liquidity and lower transaction costs compared to directly buying the underlying assets. They also enable arbitrage, where investors exploit price discrepancies across different markets to balance out valuations. • □ **Speculation:** For risk-seekers, derivatives offer a way to profit from directional price movements without ever needing to own the physical asset.	3M
2.		**Meaning of regulatory framework**	6 M

Regulatory Framework of Derivatives Trading in India



Source: Gupta, (2017), Varghese, (2011)

Role of SEBI in derivative regulation

The Securities and Exchange Board of India (SEBI) is the statutory authority that regulates and develops the Indian derivatives market. Operating under the Securities Contracts (Regulation) Act, 1956, its primary role is to enforce risk-management frameworks, set contract specifications, and protect retail investors from excessive speculation.

SEBI manages the derivatives ecosystem through several key functions:

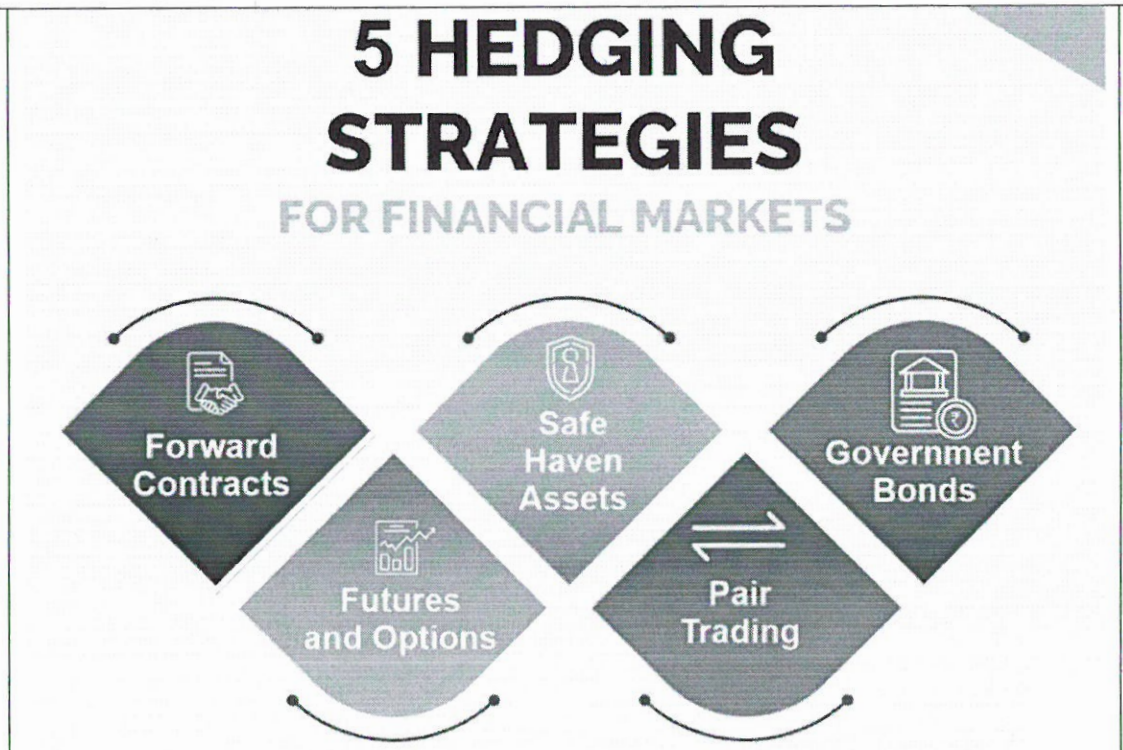
1. **Product Standardization:** SEBI dictates the rules for which assets (stocks, indices) can have futures and options contracts, determining lot sizes, expiration cycles, and strike prices.
2. **Risk Management:** It establishes rigorous margin requirements (including upfront margins), position limits, and collateral rules to prevent systemic defaults and mitigate market volatility.
3. **Market Oversight:** SEBI regulates the intermediaries (brokers, clearing corporations) and oversees the major stock exchanges like the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE).
4. **Investor Protection:** To safeguard vulnerable retail traders, SEBI frequently updates derivative frameworks. Recent measures include rationally limiting

6 M

		weekly expiries, raising minimum trading contract values, and mandating upfront premium collections	
3.	(a)	**Meaning of forward contract and feature contract** A **forward contract** is a private, customizable agreement between two parties to buy or sell an asset at a predetermined price on a specific future date. Traded over the counter (OTC), these contracts lack public oversight, carry a higher risk of default, and are typically settled in full on the maturity date. A **futures contract** is a standardized, exchange-traded agreement to buy or sell an asset at a set price on a specific future date. Backed by clearinghouses to eliminate default risk, they require daily margin settlements ("marking-to-market") and are highly liquid.	2 M
		Difference between forward contract and feature contract **FORWARD vs. FUTURE CONTRACT**	4 M

Nature	Customised	Standardised Contract
Trading	OTC	Through Exchange only
Liquidity	Less Liquid	Highly Liquid
Counter Party	Risk	Negligible
Settlement	Delivery	Offset or thro delivery
Margin	No Margin System	Compulsorily needs to be paid & perform
Mark to Market	Not Marked to Market	Marked to Market on Daily basis

	(b)	**Meaning of interest rate future ** An **interest rate future** is a standardized financial derivative contract traded on an exchange that allows a buyer or seller to lock in the price of an interest-bearing asset (like a government bond) for a predetermined price on a specified future date.	2M
		Importance of interest rate future 1. **Hedging Interest Rate Risk:** Institutions like banks, insurance companies, and corporations use IRFs to mitigate the adverse effects of fluctuating interest rates on their debt portfolios and fixed-income assets. If a company expects to borrow heavily later but worries rates will rise, it can take an opposite position in futures to offset those higher future borrowing costs. 2. **Speculation and Profitability:** Traders and portfolio managers use IRFs to bet on the future direction of macroeconomic rates. By analyzing central bank policies and economic data, speculators can generate profits if their predictions about rate hikes or cuts materialize. 3. **Price Transparency and Liquidity:** IRFs are standardized contracts traded on regulated exchanges (like the NSE in India or the CME in the US). This ensures real-time price transparency and high liquidity, allowing participants to enter and exit positions quickly. 4. **Cost Efficiency:** In many jurisdictions, such as India, trading interest rate futures is highly cost-effective because they are generally exempt from the Securities Transaction Tax (STT). 5. **Capital Efficiency:** Because they are traded as futures, investors only need to put up a fraction of the contract's total value as margin, which allows them to control large positions and maximize potential capital efficiency.	4 M
4.		**Meaning of hedging** Hedging is a risk management strategy used to offset potential losses in an investment by taking an opposite position in a related asset. Think of it as an insurance policy for your finances. You pay a small cost upfront or accept limited upside to protect yourself from a catastrophic financial loss.	4 M
		Various hedging strategies	8M

			
5.	(a)	**Meaning of option market** An options market is a financial marketplace where investors buy and sell contracts that grant the *right* (but not the obligation) to buy or sell an underlying asset at a predetermined price within a specific timeframe. These contracts are widely used to hedge against risk, generate income, or speculate on market movements	2 M
		Need for option market 1. **Risk Management and Hedging:** Options act as an insurance policy for your investments. If you own a stock, you can buy a **put option** to protect against a sudden drop in price. Your maximum loss on the option is simply the price you paid for it (the premium), while your stock portfolio remains protected. 2. **Leverage:** Options require a significantly lower capital outlay upfront compared to buying the actual underlying asset outright. This gives traders the ability to control a large amount of shares for a fraction of the cost, amplifying potential returns if the market moves in the predicted direction. 3. **Income Generation:** Investors can act as option sellers (or "writers") rather than buyers. By selling **covered calls** or **cash-secured puts**, investors collect premiums from buyers. This generates steady, consistent income—even in flat	4M

		or slightly declining markets. 4. **Profitability in Any Market Condition:** While traditional stock investing generally requires the market to go up to make money, the options market is highly versatile. Through specific strategies like straddles, strangles, or spreads, investors can structure trades to profit from high volatility, low volatility, or when the market moves heavily in either direction	
		Meaning of option market An options market is a financial marketplace where investors buy and sell contracts that grant the *right* (but not the obligation) to buy or sell an underlying asset at a predetermined price within a specific timeframe. These contracts are widely used to hedge against risk, generate income, or speculate on market movements	2 M
	(b)	**Types of options** • Call Option • Put Option • American Option • European Option • Exotic Option • Other options o Index options o Stock option o Currency option o Commodity option o ESOP o Swap option	4 M
6.		**Meaning of option** An option contract a contract which conveys to its owner, The holder, the right, but not obligation to buy or sell a specific quantity of underlying assets or instruments at a specfied strike price on or before a specific date, depending on the style of options Option contract are giving the purchaser right but not obligation to buy or sell a security at a fixed price within specific period of time.	4 M

Operational framework of options contract trading

Types of options:

- Call Option
- Put Option
- American Option
- European Option
- Exotic Option
- Other options
    - Index options
    - Stock option
    - Currency option
    - Commodity option
    - ESOP
    - Swap option

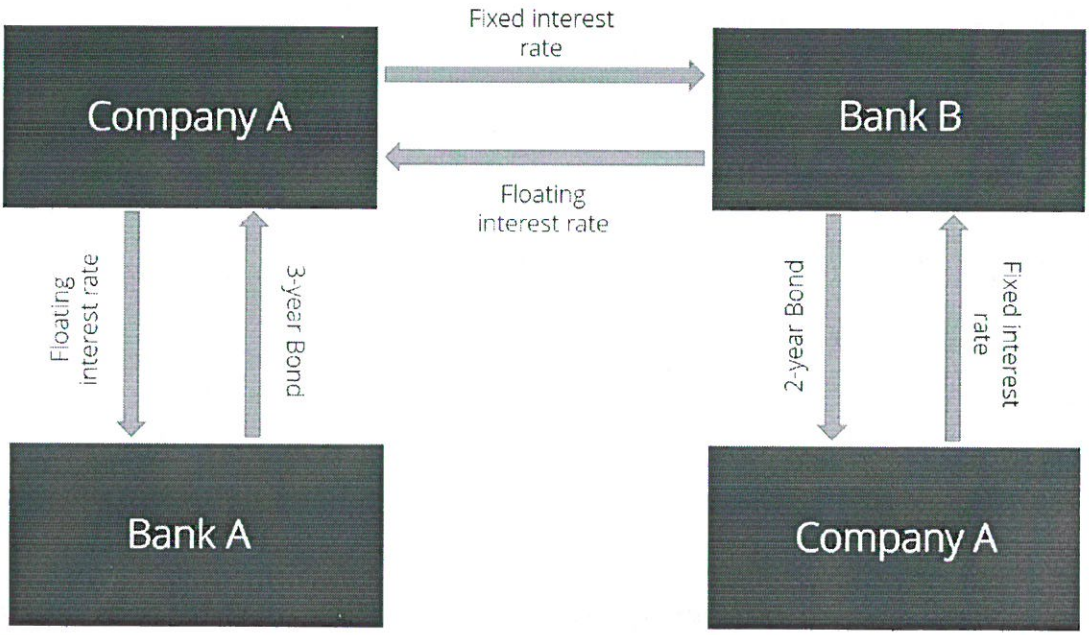
The operational framework of options contract trading is the mechanical process by which these derivatives are created, priced, traded, and settled. It consists of four core elements: contract anatomy, the roles of market participants, the pricing framework (the Greeks), and the clearing and settlement process. 8 M

- Right to buym but not obiligation
- Premium
- Strike price
- Underlying asses
- Expiration date
- Leverage
- No ownership
- Risk
- Settlement
- purpose

7.	(a)	**Meaning of Volatility** It's a rate at which the price of a security is increase or decrease for a given set of returns Volatility is measures by calculating the standard. Volatility is a primary driver in the derivatives market. It reflects the speed and magnitude of an underlying asset's price movements. Greater volatility significantly inflates options premiums and amplifies the risk for leveraged derivatives positions, resulting in potentially massive gains or rapid capital losses	2 M
		Impact of Volatility on option pricing • Price of the underlying asset • Strike price • Time until the Option gets expired • Interest rates • Dividends (if any) • Implied volatility	4 M
	(b)	**Meaning of Volatility** It's a rate at which the price of a security is increase or decrease for a given set of returns **Volatility is measures by calculating the standard.** Volatility is a primary driver in the derivatives market. It reflects the speed and magnitude of an underlying asset's price movements. Greater volatility significantly inflates options premiums and amplifies the risk for leveraged derivatives positions, resulting in potentially massive gains or rapid capital losses	2 M
		Causes for Volatility 1. The current price of underlying asses 2. Strike price 3. Maturity price 4. Interest rate 5. Dividend rate 6. SD/ Variability 7. Type of underlying asset	4 M

8.		**As a whole** **Stock price= 50** **Moths to expiration=3Months** **Risk free rate of interest =10%** **SD of Stock=40%** **Exercise price =55** **Opetion types = European call** **Calculate the vale of Call option as per Block-Scholes model** **Given Data** • Current Stock Price (S)=50(S) = 50(S)=50 • Exercise Price (K)=55(K) = 55(K)=55 • Time to Expiration (T)=3 months=0.25 years(T) = 3\text{ months} = 0.25\text{ years}(T)=3 months=0.25 years • Risk-free Interest Rate (r)=10%=0.10(r) = 10\% = 0.10(r)=10%=0.10 • Standard Deviation (Volatility) (σ)=40%=0.40(\sigma) = 40\% = 0.40(σ)=40%=0.40 The Black–Scholes model is: where $$d_1 = \frac{\ln(S/K) + \left(r + \frac{\sigma^2}{2}\right) T}{\sigma\sqrt{T}}$$ $$d_2 = d_1 - \sigma\sqrt{T}$$ Step 1: Calculate d_1 $$\ln\left(\frac{50}{55}\right) = \ln(0.9091) = -0.09531$$ $$r + \frac{\sigma^2}{2} = 0.10 + \frac{0.40^2}{2} = 0.10 + 0.08 = 0.18$$ $$0.18 \times 0.25 = 0.045$$ $$\sigma\sqrt{T} = 0.40 \times \sqrt{0.25} = 0.40 \times 0.5 = 0.20$$ $$d_1 = \frac{-0.09531 + 0.045}{0.20} = \frac{-0.05031}{0.20} = -0.2516$$	12M

		Step 2: Calculate d_2 $$d_2 = -0.2516 - 0.20 = -0.4516$$ **Step 3: Find Normal Distribution Values** From the standard normal distribution table: $$N(d_1) = N(-0.2516) = 0.4007$$ $$N(d_2) = N(-0.4516) = 0.3258$$ **Step 4: Calculate Present Value of Exercise Price** $$Ke^{-rT} = 55e^{-0.10\times0.25}$$ $$= 55e^{-0.025} = 55(0.9753) = 53.64$$ **Step 5: Calculate Call Option Value** $$C = 50(0.4007) - 53.64(0.3258)$$ $$= 20.04 - 17.48$$ $$= 2.56$$	
9.	(a)	**Meaning of Swap** A **swap contract** is a financial derivative agreement between two parties in which they agree to **exchange (swap) a series of future cash flows** or financial obligations according to predetermined terms over a specified period. **John C. Hull:** "A swap is an agreement to exchange cash flows at specified future times according to certain specified rules."	3M
	(b)	**Meaning of swap** A **swap contract** is a financial derivative agreement between two parties in which they agree to **exchange (swap) a series of future cash flows** or financial obligations according to predetermined terms over a specified period. **John C. Hull:**	2 M

		"A swap is an agreement to exchange cash flows at specified future times according to certain specified rules."	
		Structure of Swap in diagram 	7 M
10.		**Meaning of currency Swap** A **currency swap** is a financial derivative contract in which **two parties agree to exchange principal amounts and interest payments in different currencies for a specified period**, and then re-exchange the principal amounts at the end of the contract at a predetermined exchange rate. **John C. Hull:** "A currency swap is an agreement to exchange interest and principal payments in one currency for interest and principal payments in another currency."	4 M
		Features: • Exchange of Principle • Interest payments • Fixed term • Currency risk mitigation • No netting of Payment	8 M

		• Flexible structure **Role of Currency swap on managing foreign exchange risk** • Hedging long ter risk • Lower borrowing cost • Flexibility • Improved liquidity • Accessing new financial markets	
PART – B (1 x 10 = 10 Marks)			
11.		**As a whole**	10 M