CA Final

Paper-2

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DIKSHA GOYAL AIR 1

I took AFM classes from 1FIN for my CA Final preparation I liked Sriram Sir's teaching on Excel a lot. I used 1FIN material fully and made short notes while watching the videos. I used 1FIN app for MCQs both at Inter & Final level - they were extremely value adding. The animation feature is something I really loved. I still remember the Brinjal Farmer example for Forwards. I recommended 1FIN's classes to several of my friends.

Sindhuri

Every concept was explained with crystal clarity, I feel way more confident now. Soo glad that I found your classes!!

Maanu

The way of presentation is absolutely beautiful. It's easy to understand the concepts from the classes. Thanks for the session

Priya Namburi

I have cleared my CA final both groups in my first attempt. I would like to thank Suraj and Sriram sir. Because of their teaching it was easy to understand the core of the subject and I gained confidence. I scored 50+ in both. Their teaching style is the best

Shivaji Hari

Thank you so much for sharing your tips. You've completely changed my perspective and thought process. You are my true guru in every aspect since 3 years.Expressing my gratitude in words doesn't feel enough .

Devika

Watching 1FIN classes was the best choice. I love how you break things down so well and explain clearly Sir.

Sathya K

I cannot thank Indigo learn enough" The practical insights provided during lectures prepared me for the real exam...where I cleared the group with exemption in AFM with 82 marks. Special thanks to Sriram sir who cautioned me in each and every sum which really helped me to understand the concept. Thank you for the wonderful classes. I owe a lot!

Ravi Pulavarthi

Sir nice very good explanation of theory

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Rama Sesha Gopal

I have scored 70 marks in AFM. I want to thank Sriram sir for this. Secondly, the P600+ has been a solid practice material and aided my preparation with detailed answers, questions from immediately ended exams. Thanks for making an impact in our lives... very grateful sir

Nikhil M

Classes are amazing! Thankyou for explaining everything so clearly. I actually get the concepts now.

Prashant

Superb classes! Perfect to achieve a strong grasp of the subject.I liked how they made learning fun.

Gayatri maniyam

Honestly, these classes made a huge difference for me. I feel more confident with many topics now.

Painedi Adharsh

Hi Sir, Your teaching was excellent. I watched your revision lectures whenever I had doubts. I'm pleased to share that I scored 71 marks in AFM. Thank you for your valuable guidance and support.

Srinivas P

These were one of the best classes I have ever experienced. Great explanation, covering every topic right from basics to advanced. Glad I found 1FIN and your classes Sir.

Bala

AFM I got exemption sir 62. Thanks for your support sir ur videos helped me a lot in my preparation.

Kavya S

Omg Amazing classes thank you so much Sriram Sir

Shiva R

Each and every topic was covered soo clearly. Thankyou soo much for the classes Sir, they were really very helpful!!

Nanditha

The best class I have ever seen in my career. Satisfied

Asalamsha

Classes were very useful for conceptual understanding

Our Rankers

AIR 1

Diksha Goyal
CA Final Jan-26

AIR 49

Hamsa Gayatri
CA Final Sep-25

AIR 27

Sudeepta Benya
CA Final Nov-24

AIR 5

Sarthak
CA Inter May-23

AIR 19

Aman Mahajan
CA Inter Dec-21

AIR 33

Sundar B
CA Inter Dec-21

AFM T380+

(Theory Compiler)

V 6.0

Disclaimer

This book is designed for students pursuing **CA Final course, who are appearing for the Advanced Financial Management (New Syllabus)** exam in **Nov'26 or afterwards. Questions and data have been updated will Jan'26 Exams.**

Every effort has been made to avoid errors and omissions. Despite this, errors may still occur. Any mistake, error, or discrepancy may be brought to our attention by reaching out to us at 1fin.in/support and we shall fix the same in the next edition of the book.

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3rd Edition – May 2024

4th Edition – Jan 2025

5th Edition – Nov 2025

6th Edition – April 2026

CA FINAL PAPER 2:ADVANCED FINANCIAL MANAGEMENT (100M) CHAPTER WISE WEIGHTAGE BASED ON PAST EXAM & ANALYSIS THEREOF								
S. No.	**CHAPTER NAME**	**Jan-26**	**Sep-25**	**May-25**	**Nov-24**	**May-24**	**Avg. of category**	**ICAI Weightage**
1	Financial Policy & Corporate Strategy	4	4	4	4	4	13.20 Marks	8-15 Marks
2	Advanced Capital Budgetting Decisions	6	6	6	8	8		
3	Risk Management	4	4	4	-	-		
	TOTAL	**14**	**14**	**14**	**12**	**12**		
4	Security Analysis	4	4	4	-	6	26.00 Marks	20-30 Marks
5	Security Valuation	6	12	6	18	6		
6	Portfolio Management	14	6	16	14	14		
	TOTAL	**24**	**22**	**26**	**32**	**26**		
7	Securitization	4	4	4	-	4	28.60 Marks	20-30 Marks
8	Mutual Funds	12	17	17	6	8		
9	Derivatives, Analysis & Valuation	18	10	13	20	6		
	TOTAL	**34**	**31**	**34**	**26**	**18**		
10	Forex Exposure & Risk Management	16	17	12	14	-	25.80 Marks	20-25 Marks
11	International Financial Management	6	7	6	6	8		
12	Interest Rate Risk Management	6	4	7	10	10		
	TOTAL	**28**	**28**	**25**	**30**	**18**		
13	Business Valuation	4	13	11	8	-	14.40 Marks	10 - 15 marks
14	M&A & Corporate Restructuring	10	6	4	6	10		
	TOTAL	**14**	**19**	**15**	**14**	**10**		
15	Startup Finance	4	4	4	4	4	4.00 Marks	2-5 marks
	TOTAL	**4**	**4**	**4**	**4**	**4**		
16	Removed Topics / MCQS				-	30		
	Grand Total	**118**	**118**	**118**	**118**	**118**		

NOTE: 1: Weightage of Optional questions has been taken in calculations;

MCQ Breakup is not known for May-24 as Q paper is not publicly shared

CA FINAL PAPER 2: ADVANCED FINANCIAL MANAGEMENT
QUESTION WISE TOPICS BASED ON PAST EXAM PATTERN

Q.	Jan-26		Sep-25		May-25		Nov-24		May-24	
	Topic	M	Topic	M	Topic	M	Topic	M	Topic	M
	Part 1 - MCQs									
Set 1	Sec Val Bonds - Repor / Rev Repo	6	Adv Cap Budgetting NPV sensitivity	6	Forex - Evaluation of various choices for hedging	8	Security Valuation - Equities DDM	10		
Set 2	Forex - fate of Forward	6	MF NAV computation	6	Portfolio Management - Beta, Co Variance & SD	10	Security Valuation - Bonds - Price & Duration	8		
Set 3	Portfolio Management - CAPM	6	Derivatives - Options Pay off	6	MFs - NAV Computation	6	Derivatives - Options Call & Put Pay off	6		
Set 4	M&A Swap Ratio	6	Forex - Broken period forward	6	Devivatives - Futures - Gain Loss	6	M&A - Swap Ratio & Shares Issues	6		
Set 5	Adv Cap Bud Dec - product Mix	6	M&A Post Acq EPS etc	6				8		
COMPULSORY										
1 (a)	MF - compute ope NAV after bonus	6	Business Valuation - FCFF / FCFE based valuation	6	Sec Valuation Eq - Earnings Growth Model	6	Portfolio Management - Risk Return Using SD	6	Portfolio Management - Action to be done on shares based on next years financials	6
1 (b)	M&A - Free Float Market Cap	4	Forex - Gain loss on hedging	4	Business Valuation - EVA	4	Real options - Abandonment Option	4	Mutual Funds - Compute NAV based on certain data	4
1 (c)	Options - Call + Put Pay off	4	Succession Planning (T)	4	Types of risks in Imports & Exports (T)	4	Dividend Decisions (Fin Policy & Corp Startegy) - (T)	4	Interface of Strategic Management & Financial Policy (T)	4
OPTIONAL (4 of 5)										
2(a)	Forex - Supplier Credit / Local credit	6	Sec Val Eq - GGM valuation	6	Portfolio management - Port var with Correl	6	Mutual Funds - Compute NAV based on Holding Period Returns	6	Security Analysis - Exponential Moving Average	6
2(b)	Fin Policy (EFR)	4	IRRM - FRA payoff	4	Forex - Buy & sell currency rates	4	ACBD - Compute Investmet based on CF to arrive at 0 NPV	8	International Financial Management - GDR floatation cost	4
2(c)	Real Options Theory Diff with Fin options (T)	4	Factors that made Organization Financially Sustainable (T)	4	Role of CFO (T)	4			Mutual Fund NAV Computation	4
3(a)	Derivatives - Futures + Options Portfolio P&L	6	Sec Val Bonds - Deb Redemption	6	Adv Cap Budgetting Decision, Machine NPV evaluation	6	Interest Rate Risk Management - FRA - compute int rate based on payoffs	6	Interest Rate Risk Management - Cap computation	10
3(b)	Forex - cross currency arbitrage	4	MF - Chosing best return option	4	MFs - Return computation	4	Forex Nostro Account Balance	8	Start ups - Why India preferred for startups (or) Tokenization & Securitization (T)	4
3(c)	Risk Management - political Risks (T)	4	Risks with Block chain (T)	4	Sec Analysis - Weak Mkt efficiency tests (T)	4				
4(a)	Int Rate Risk Managemeent - Cap + Floor strategy	6	PM - Portfolio Risk computation	6	IFM - Investment into india	6	Derivatives - Futures - compute Portfolio Beta, Hende & Nifty Futures Value	6	Derivatives - Options - Compute Gain / loss on Options portfolio	6
4(b)	Biz Valuation - EVA	4	Derivatives - NIFTY futures and portfolio loss	4	M&A - Breakevern swap ratio	4	Biz Valuation - EVA back work to NP	4	M&A	4
4(c)	Charts & Patterns Sec Analysis (T)	4	Technical analysis disadvantages (T)	4	Securitization - Tokenization (T)	4	Succession planning (T)	4	GIFT City & IFC meaning (T)	4
4 (d)			Currency risk identification (T)	4	Stages of VC funding (T)	4	IRRM - MIBOR OIS Swap Fixed rate	4		
5(a)	Portfolio Management - Sharpe's optimal portfolio	8	Intl Fin Mgmt - Investment NPV	7	MF Div Reinvestment	7	IFM / Forex - Derive forward rate based on Cashflows	6	Portfolio Management (Risk & Return of Two Securities)	8
5(b)	Ifm - GDRs	6	MFs - NAV computation backwards	7	Biz Valuation - EV computation	7	Biz Valuation - Share buy back missing count & price	4	Security Valuation Intrinsic Value	6
5(c)							Derivatives - Portfolio Gain loss incl Futures gain loss	4		
6(a)	MF - Aum 7 NAV computation	6	Business Valuation - FCFF / FCFE	7	Futures - MTM computation	7	PM - Sharpe & Treynor Ratio based back working	8	Advanced Capital Budgetting Decisions	8
6(b)	Derivatives - Abandonment option	4	Forex Hedging Comparison money Market Vs forward	7	Int Rate Risk mgmt - Collar	7	Forex -Project profitability based on swap rate	6	M&A - Maximum price for acquisition	6
6(c)	Role of GOI in Startup India (T)	4								
6 (d)	SPV structure (PTS, PTC, IO, PO) (T)	4								
MCQs										30
		118		**118**		**118**		**126**		**114**

Preface

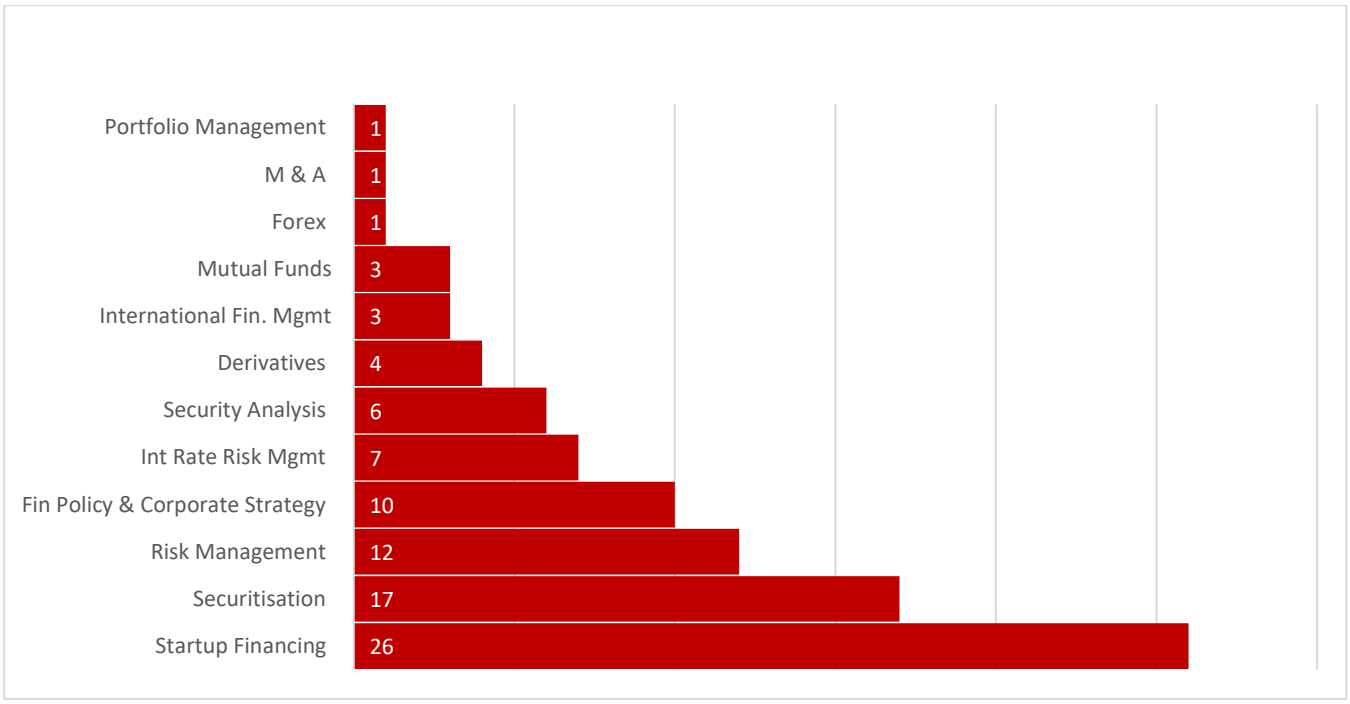
Finance is as much a science as it is an art. The Key to mastering this subject lies in not just in remembering a few formulae, but the ability to understand the conceptual 'rationale' and the human psyche that drives such 'behaviour'.

In this book, we have attempted to simplify the concepts of Finance to not only prepare students for their exams but also imbibe in them knowledge that they will require as they start building their careers. The Book contains 380+ theory questions & along with answers in a simple and lucid manner.

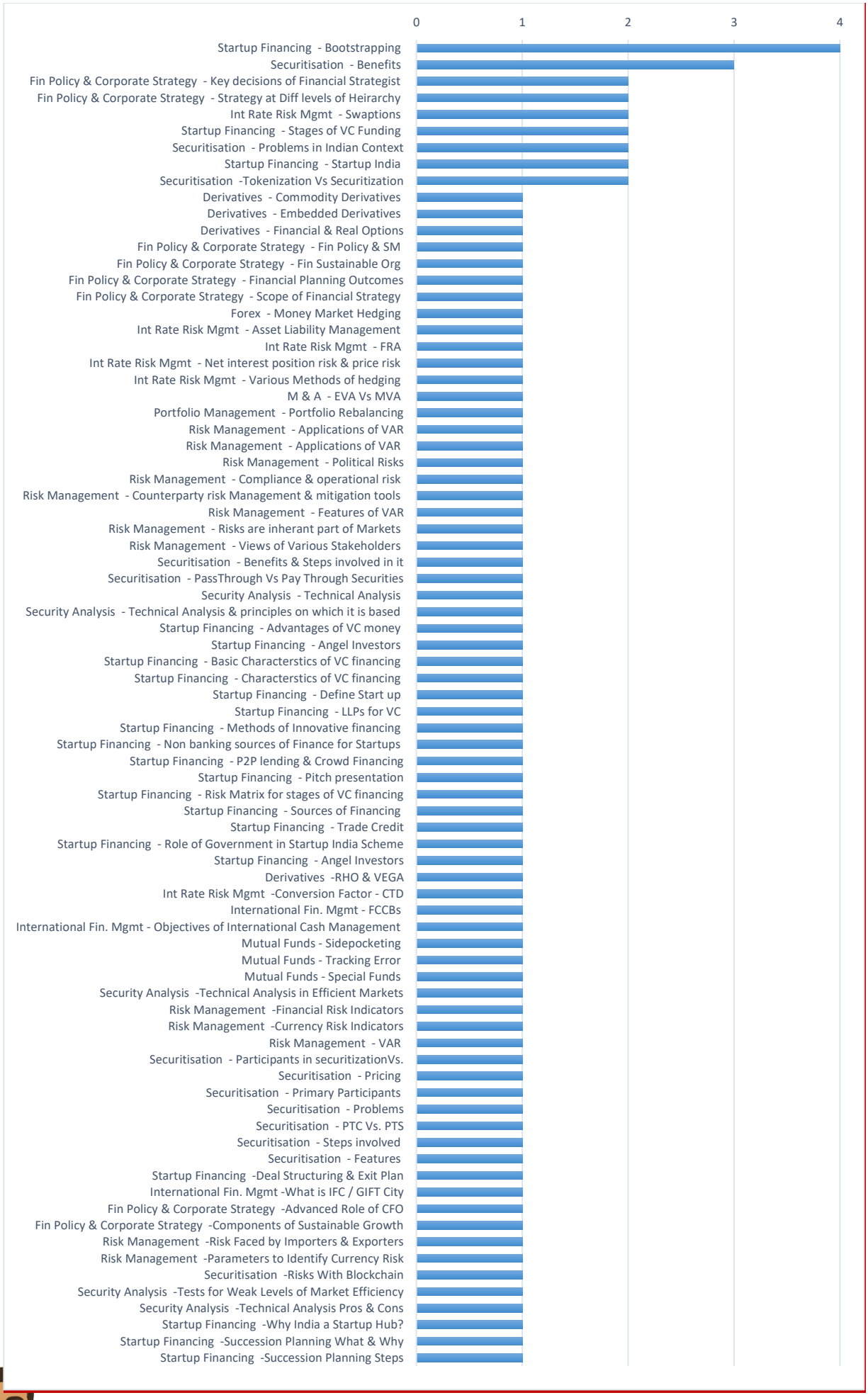
We wish the students the very best and all the success in whatever they do.

Team 1FIN

Chapter-wise Number of Questions Asked in Exams



Questions asked & the # of times they have been asked.



CONTENTS

FINANCIAL POLICY & CORPORATE STRATEGY 21Q|8PE

Q1. What is the role / (Advanced role) of CFO in various matters including value creation? **(Important & Past Exam)**

A. The role of a CFO has expanded vastly over the years consequent to changes in technology, business, environment and of course the pandemic. In addition to fulfilling traditional role relating to governance, compliances and controls, and business ethics CFOs are also expected to contribute their support in strategic and operational decision making. New areas that the CFOs are now expected to focus on:

a) Oversee the overall framework of Risk Management
b) Establish financial viability of the Supply Chain Management
c) Evaluate Mergers, acquisitions, and Corporate Restructuring decisions that are strategic in nature as any error in them can lead to collapse of the whole business.
d) With the evolution of the concept of ESG, role of a CFO has shifted from traditional financing to sustainability financing.

In today's time CFOs are taking a leadership role in Value Creation for the organisation and that too on sustainable basis for a longer period.

Q2. What are the 3 fundamental / essential elements of a business?

A.
- A clear and realistic strategy,
- The financial resources, controls, and systems to see it through and
- The right management team and processes to make it happen

Strategy + Finance + Management = Fundamentals of Business

Q3. What is the Meaning of Strategic Financial Management?

A. An integrated approach applying financial management techniques to strategic decisions in order to help achieve the decision-maker's objectives can be called as Strategic Financial Management.

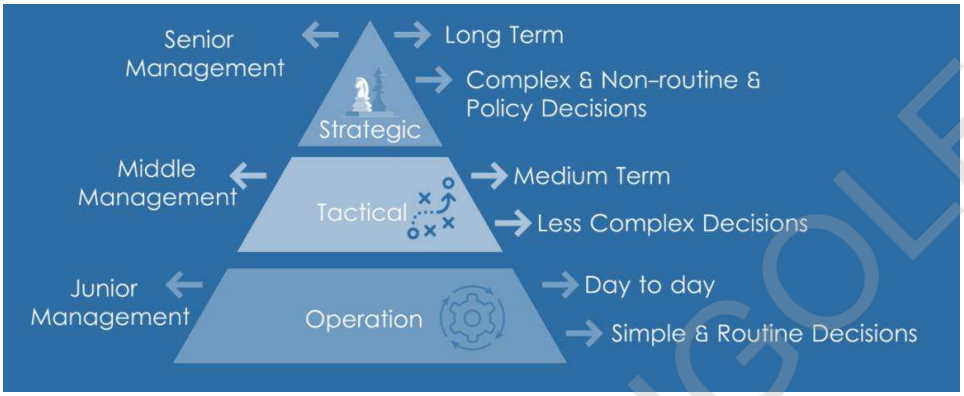
- Although linked with accounting, the focus of strategic financial management is different.
- Strategic financial management combines the backward-looking, report- focused discipline of (financial) accounting with the more dynamic, forward-looking subject of financial management.
- It is basically about the identification of the possible strategies capable of maximizing an organization's market value. It involves the allocation of scarce capital resources among competing opportunities.
- It also encompasses the implementation and monitoring of the chosen strategy so as to achieve agreed objectives.

Q4. What are the functions of Strategic Financial Management? **(Important)**

What are three levels of Financial Planning?

A. Strategic Financial Management is a part of the corporate strategic plan that combined the optimum investment and financing decisions required to attain the overall objectives. It consists of

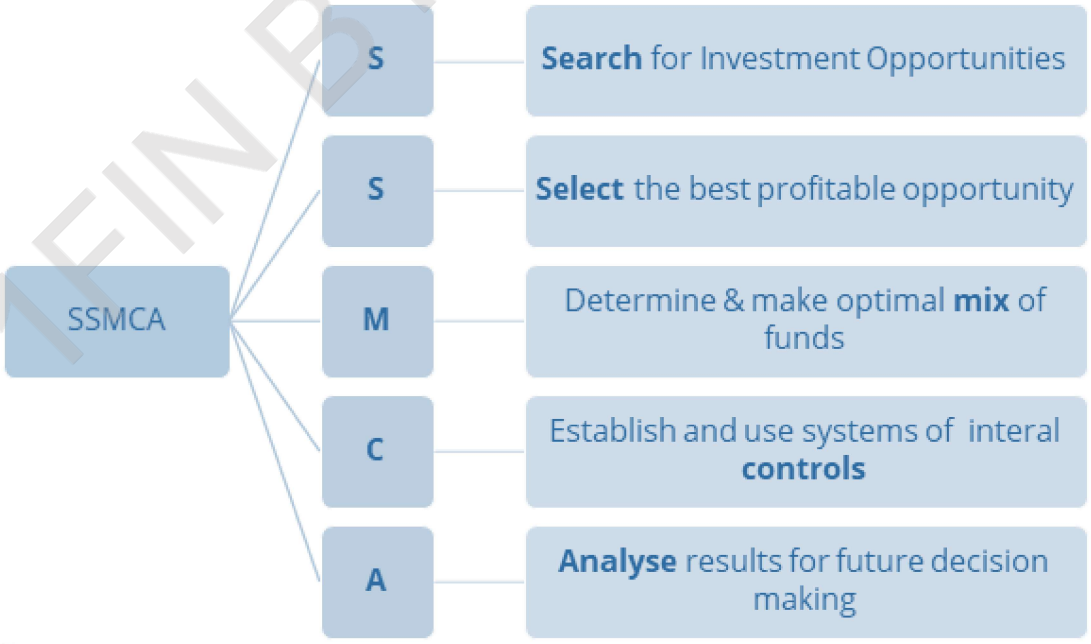
- Strategic Financial Planning – Long Term – Focus of Senior Management
- Tactical Financial Planning – Intermediate Term – Focus of Middle Management
- Operational Financial Planning – Short Term – Focus of Line Management



Q5. What is the Strategic Problem for Financial Management and what are the functions involved in Financial and Investment Decisions?

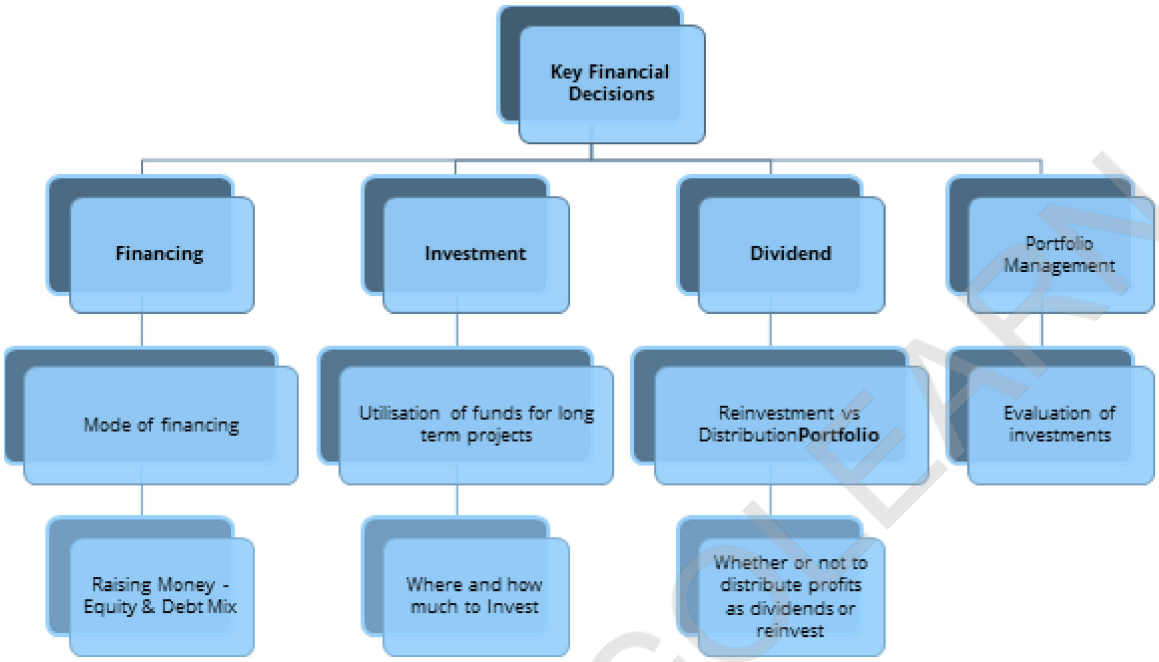
A. Since capital is the limiting factor, the strategic problem for financial management is how limited funds are allocated between alternative uses.

Functions of SFM



Q6. What are the key decisions falling within the scope of financial strategy? **(Important)(Past Exams)**

A.



Q7. Explain levels of strategy **(Important) (Past Exams)**

A. **Corporate Level Strategy** – concerned with management of portfolios of business

Corporate level strategy should be able to answer three basic questions:	
Suitability	Whether the strategy would work for the accomplishment of common objective of the company.
Feasibility	Determines the kind and number of resources required to formulate and implement the strategy.
Acceptability	It is concerned with the stakeholders' satisfaction and can be financial and non-financial.

Business Unit Level Strategy

Strategic business unit (SBU) is any profit centre that can be planned independently from the other business units of an organisation. They have a discrete marketing plan, own set of competitors, and marketing campaign. It typically has a manager responsible for strategic planning and profit performance who controls most of the factors.

These strategies take care of

- practical coordination of operational units
- supervision of operations in the unit
- meet deadlines and targets set by Corporate Level in developing and sustaining products and services.

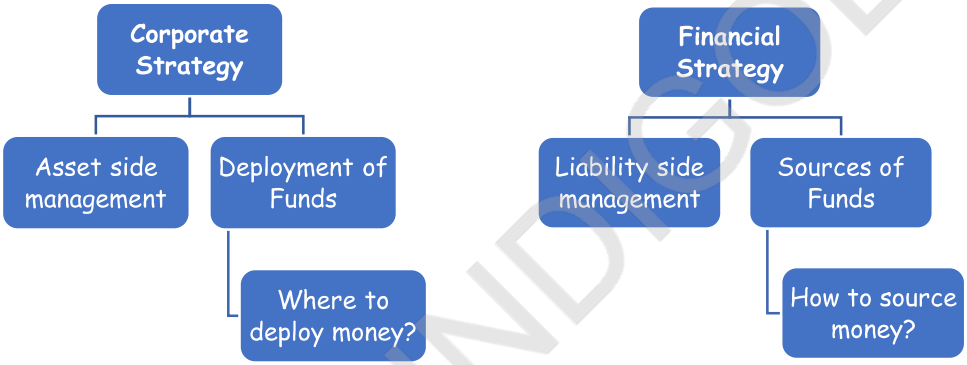
Functional Level Strategy

These strategies are involved in execution of strategies at floor or on site. Development of products or services through coordination of resources through which business unit level strategies can be executed effectively and efficiently is dealt under functional level strategies.

Functional units provide input to the business unit level and corporate level strategy, such as providing feedback on customer responses or on resources and capabilities on which the higher-level strategies can be based.

Q8. Differentiate between Corporate and Financial Strategy

A. Corporate Strategy vs Financial Strategy



Q9. What is Financial Planning & what are its 3 major components? **(Important)**

A. Financial planning is a systematic approach whereby the financial planner helps the customer to maximize his existing financial resources by utilizing financial tools to achieve his financial goals.

Financial planning encompasses,

- Financial resources (FR) to source and deploy, which are limited
- Financial tools (FT) for decision making
- Financial goals (FG) to achieve

Financial Planning = FR + FT + FG

Q10. What are the outcomes of Financial Planning Exercise? **(Important) (Past Exams)**

A. Outcomes of the financial planning are the financial objectives, financial decision-making and financial measures for the evaluation of the corporate performance.

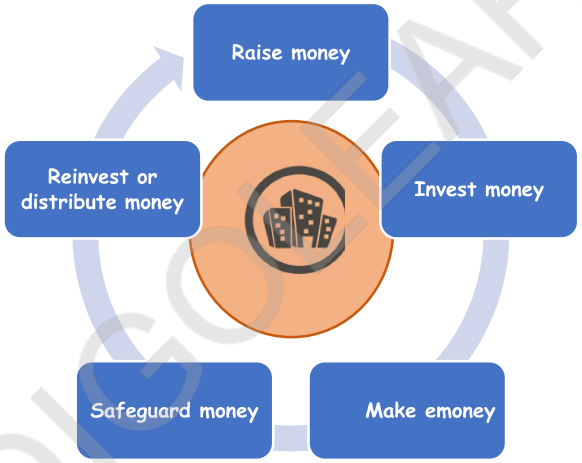
Financial objectives are to be decided at the very outset so that rest of the decisions can be taken accordingly. The objectives need to be consistent with the corporate mission and corporate objectives.

Financial decision making helps in analysing the financial problems that are being faced by the corporate and accordingly deciding the course of action to be taken by it.

The financial measures like ratio analysis, analysis of cash flow statement are used to evaluate the performance of the Company. The selection of these measures again depends upon the corporate objectives.

Q11. Explain the Interface of Financial Policy and Strategic Management. **(Important) (Past Exams)**

A. The need for fund mobilization to support the expansion activity of firm is very vital for any organization.



Though financial policy and corporate strategy, both deal with funds and money issues of an organisation but

- Financial Policy mainly deals with sourcing funds and
- Corporate Strategy mainly deals with deployment of funds.

Financial policies should be framed during the stage of corporate planning itself and not at a later stage.

(Also summarize about, financing, investment, and dividend policy decisions from answers to the questions below)

Q12. What are the Financing Decisions that an organization faces?

A. **Sources of Funds & Capital Structure**: distribution of debt and equity that makes up the finances of a company. Along with the mobilization of funds, policy makers should decide on the capital structure to indicate the desired mix of equity capital and debt capital.

The debt-equity ratio is **a measure of the relative contribution of the creditors and shareholders or owners in the capital employed in business**. It is the ratio of the total long-term debt and equity capital in the business.

Factors affecting financing decisions.

- Cost of raising capital
- Risk associated with sources of funds.
- Cash Flow condition
- Control Considerations

Elements determining the capital structure.

- **Nature of the firm**

- **Region - Geographical position** – Developed or underdeveloped
- **Industry** – Capital Intensive (high debt equity) or labour intensive
- **Sector** – Public (ideal is 1:1) or Private (ideal is 2:1)
- **Maturity** of the firm or stage in the business life cycle

Research oriented companies and brand oriented companies in the industries of pharma, biotech and FMCG have lower D/E ratio. On the other hand, road sector, power sector, infrastructure sector and energy sector have high D/E ratio.

Financial policy and corporate strategy, both are dependent on and affected by the capital structure of the company.

Q13. How does an organization take its Investment Decisions?

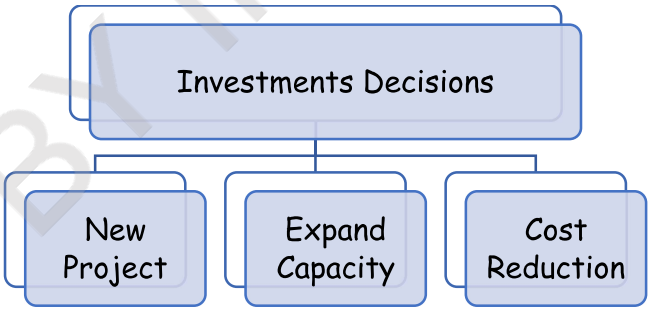
A. It relates to as how the funds of a firm are to be invested into different assets, so that the firm can earn highest possible return for the investors and fulfil the expectations of the stake holder.

The objective is to regulate amount invested in fixed assets and manage current assets such that money is not blocked.

A firm's resources are scarce in comparison to the uses to which they can be put. Thus, a firm must choose where to invest these resources. The two types of investments are:

long term investment decision – also called as capital budgeting decisions which involve huge amounts of long-term investments and are irreversible except at a huge cost.

short-term investment decisions – also called working capital decisions, relate to day to day working of a business. They include the decisions about the levels of cash, inventory and receivables.



Every investment decision of the company will have an impact on the financial policy and corporate strategy of the company as these decisions will affect the money spent and in turn affect the money to be raised and money made.

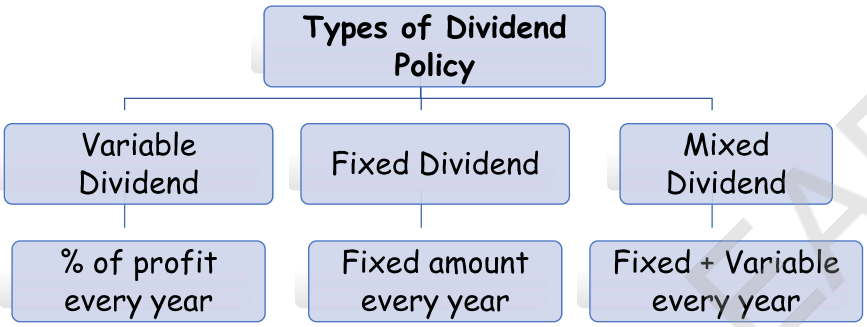
Q14. What are the key components of a firm's **Dividend Policy?** ? **(Important)(Past Exams)**

A. Dividend policy is the policy used by a company to decide how much will it pay-out to shareholders in the form of dividends. The amount earned left after distributed to shareholders / owners is left for reinvestment. Usually, a company retains a part of its earnings and distributes the other part as dividend.

Dividend policy decision deals with the extent of earnings to be distributed as dividend and the extent of earnings to be retained for future expansion scheme of the firm.

Any specified dividend policy will have the following elements.

- Objectives
- Factors
- Frequency



Factors affecting Dividend policy decisions.

- Intention / objective of the company
- Earnings generated from the company
- Growth prospects for the company
- Cash flow position
- Shareholder's expectations
- Taxation policy

Q15. Write a short note on Balancing Financial Goals vis-a-vis Sustainable Growth. **(Important)**

A. Sustainable growth is the realistically attainable / possible growth that a company could maintain without any additional investments.

The main features of sustainable growth are

- Sustain existing operations
- Meet debt obligations
- No fresh equity

The sustainable growth rate is a measure of how much a firm can grow without borrowing more money. After the firm has passed this rate, it must borrow funds from another source to facilitate growth.

Sustainable growth rate (SGR) is the maximum rate of growth that a company can sustain without additional equity or debt. The SGR involves maximizing sales and revenue growth without increasing financial leverage.

SGR =Return on Equity (RoE) × (1−Dividend Payout Rate) = Return on Equity × Retention rate

Sustainable growth rate represents the possible growth for the organisation and also the expected growth for the organisation.

An ideal sustainable growth should consider and balance both, long term goals as well as short term goals such that the organisation can sustain both in long term and short term.

Q 16. What are the Components affecting Sustainable Growth? (Past Exam)

A. Components affecting sustainable growth are:

- Multiple sources of income
- Multiple channels of generating income
- Consistent strategic and financial planning
- Reliable support systems
- Risk management systems
- Financial systems
- Infrastructure
- Intellectual property or people involved.
- Clarity of organisational objectives and values for employees, shareholders, and stakeholders
- Financial autonomy – company should not overly dependent on external finances

Q17. What are the Assumptions for Sustainable Growth

A. Following are the assumptions for sustainable growth

- Targeted capital structure maintained.
- Defined dividend payout policy i.e dividend payment ratio fixed and maintained; and
- No fresh equity raised

Q18. Elaborate on linkage between growth Capability & Strategy **(Important)**

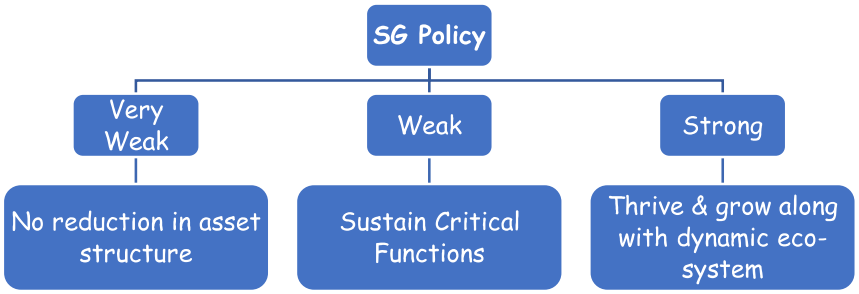
A. Two important aspects for achieving sustainable growth are Growth strategy and growth capability.

Growth capability depends on resources and assets available and employed and the executionary capacity of the management and the growth strategy depends on strategic direction the company has chosen, the values by which the organisation is governed, and goals & policies set by the management.

Both are inter-dependent. If a company has an excellent growth strategy formulated but does not have the necessary infrastructure to execute that strategy, long-term growth is impossible and vice-versa.

Q19. Distinguish between Strong, Weak and Very Weak Sustainable Growth Policies

A. Every organisation has a different growth policy, it could be Very weak, Week or strong. It depends on the organisation's experience and objective and executionary capacity.



Q20. What makes an Organisational Sustainable **(Important) (Past Exams)**

A. Sustainability is concerned with the preservation of resources to ensure functioning of the whole organisation in the best possible way. For an organisation to sustain and grow it needs:

- clear strategic direction i.e., vision and goals.
- review dynamic business environment and eco system in which it operates to identify opportunities.
- raise & arrange resources effectively.
- use and deploy resources efficiently.
    - capital resources.
    - employ, manage and retain competent staff.
    - adequate administrative and financial infrastructure.
- convince and coordinate with various stakeholders – shareholders, lenders, creditors, bankers, employees, govt., community / society.

Q21. What is the linkage between Growth and Inflation?

A. Inflation increases the amount of external financing required and increases the debt-to-equity ratio when this ratio is measured on a historical cost basis. Thus, if creditors require that a firm's historical cost debt-to-equity ratio stay constant, inflation lowers the firm's sustainable growth rate.

Inflation affects mature industry's growth negatively. If inflation is higher than the SGR, especially in a mature industry for a continuous period, most of the funds will be blocked in the working capital and reinvestment becomes difficult and hence the growth is not possible. Any money made in the organisation will be used only for tackling the inflation, thus the SGR will gradually fall.

RISK MANAGEMENT 9Q|7PE

Q1. What are the types of risk faced by an organization? **(Important) (Past Exam)**

A. Explain in brief about 4 types of risks and their sub types.

Strategic Risk

A successful business needs a comprehensive, well-thought-out business plan. Strategic risk is one in which a company's strategy becomes less effective and it struggles to achieve its goal. It could be due to

- Existing environment changes
- Technological changes
- A new competitor entering the market
- Shifts in customer preferences
- Increase in the costs of raw materials

Compliance Risk

Every business needs to comply with rules and regulations. It could mean the compliance of the various regulations depending on Geography and industry.

Operational Risk

This type of risk relates to internal risk. It also relates to failure on the part of the company to cope with day-to-day operational problems. Operational risk relates to 'people' as well as 'process'.

Financial Risk

Financial Risk is referred as the unexpected changes in financial conditions such as prices, exchange rate, Credit rating, and interest rate etc. It can be broadly classified in to following 5 types:

- **Liquidity Risk**
  Broadly liquidity risk can be defined as inability of organization to meet it liabilities whenever they become due. This risk mainly arises when organization is unable to generate adequate cash or if there is a mismatch in cashflows.

  This type of risk is more prevalent in banking business where there may be mismatch in maturities of monies lent out (Borrowings to customers / Companies) vs. monies borrowed (Fixed Deposits)

- **Currency Risk**
  This risk mainly affects the organizations that have dealings in foreign exchange.

  This risk can be affected by cash flow adversely or favourably. It can have an impact on the following:
  - Cost of production
  - Sales relation value
  - Value of Assets / liabilities

- **Interest Rate Risk**
  Interest rates are of two types i.e., fixed, and floating. The risk in both of these types is inherent.

  - Floating Interest Rate – Interest rate linked to a specific benchmark; When rates are rising a floating rate, borrowing is expensive

  - Fixed Interest Rate – Borrow at a rate that is fixed for entire tenure - When rates are falling a fixed rate borrowing is expensive

- **Political Risk**
  These arise due to political situation / change in government of the host country and can have very large and dangerous financial implications

  - Confiscation or destruction of overseas properties.
  - Rationing of remittance to home country.
  - Restriction on conversion of local currency of host country into foreign currency.
  - Restriction as to borrowings.
  - Invalidation of Patents
  - Price control of products

- **Counter Party Risk**
  This risk occurs due to non-honouring of obligations by the counter party which can be failure to deliver the goods for the payment already made or vice-versa or repayment of borrowings and interest etc.

Q2. What are indicators of Counter party risk & how can it be managed? **(Important) (Past Exam)**

A. Various hints that may serve as indicators (red flags) of counter party risk are:

- Failure to obtain necessary resources to complete the project or transaction undertaken.
- Past history of insolvency.
- Any regulatory restrictions from the Government.
- Hostile action of foreign government.
- Let down by third party.

Measures to manage this type of risk are:

- Carrying out Due Diligence before dealing with any third party.
- Do not over commit to a single entity or group or connected entities.
- Define exposure limits.
- Review the limits and procedure for credit approval regularly.
- Rapid action in the event of any likelihood of defaults.
- Use performance guarantee, insurance, or other instruments.

Q3. What are indicators of Political risk & how can it be managed?

A. Indicators of political risk are as follows:

- Nationalization
- Price Fixation
- Local Joint venture
- Restrictions on currency conversion

Risk Mitigation measures

- Entering Joint Ventures
- Study the foreign investments.
- Local financing
- Multi-lateral agencies
- Prior Negotiations
- Political risk indicators
- Understanding the local politics
- Local embassies
- Macroeconomic situation

Q4. What are indicators of Interest Rate Risk?

A. Generally, interest rate Risk is mainly identified from the following:

- Macro-Economic data
- Industrial Output
- Demonetization
- Inflation
- RBI Policy

- Fiscal position
- Inflation

Q5. **What are the parameters to Identify Currency Risk? (Past Exam)**

A. Following actions can indicate currency risk,

- Government Action - The Government action of any country has visual impact in its currency. For example, the UK Govt. decision to move away from European Union i.e., Brexit brought the pound to its lowest since 1980's.
- Nominal Interest Rate: As per interest rate parity (IRP) the currency exchange rate depends on the nominal interest of that country.
- Inflation Rate: Purchasing power parity theory discussed in later chapters impact the value of currency.
- Natural Calamities Any natural calamity can have negative impact.
- War, Coup, Rebellion etc. All these actions can have far reaching impact on currency's exchange rates.
- Change in Government: The change of government and its attitude towards foreign investment also helps to identify the currency risk.

Q6. What is VAR? Explain **(Important) (Past Exam)**

A. VAR is a measure of risk in investment. Measurement of risk is likelihood of something happening.

- VAR is maximum possible loss at a specific probability.
- Given the normal market condition in a set of periods, say, one day it estimates how much an investment might lose. This investment can be a portfolio, capital investment or foreign exchange etc.,
- It is a type of statistical tool based on concepts of Standard deviation & Normal Distribution
- VAR can be applied for different time horizons say one day, one week or one month.

Q.7 What are applications of VAR? **(Important) (Past Exam)**

A. Following are applications of VAR

- to measure the maximum possible loss on any portfolio or a trading position.
- as a benchmark for performance measurement of any operation or trading.
- to fix limits for individuals dealing in front office of a treasury department.
- to enable the management to decide the trading strategies.
- as a tool for Asset and Liability Management especially in banks.

Q8. What are characteristics of VAR? **(Important) (Past Exam)**

A. VAR uses the following:

- Risk (It measures risk as Standard Deviation)
- Statistical methods
- Normal Distribution

- Z Score (SD away from Mean at a specific confidence level)
- Concept of confidence level or Probability

VAR is based on:

- Historical data
- It is an approximate method
- It is based on a Normal distribution
- It computes the maximum possible loss at a given confidence level
- It can be done for various time periods
- It helps in setting risk limits

Q9. How do various stakeholders view Risk? **(Important) (Past Exam)**

A. **Equity holders/ Lenders (Financiers)**

Major stakeholders of a business are equity shareholders, and they view excessive financial gearing i.e., ratio of debt in capital structure of company as risk since in event of winding up / liquidation of a company they will have last priority over cash realised in the winding up process.

Equity shareholders become uncomfortable if there is too much debt in the capital structure

Same way Debt holders also believe that the Debt-to-equity ratio should be optimum as a higher debt: equity ratio can pose risk to the company

Company

From company's point of view if a company borrows excessively or lends to someone who defaults, then it can be forced to go into liquidation. In order to mitigate such risks, it should,

- Evaluate Financial Structure
- Evaluate Risks
- Set up robust risk management system.
- Measure the risk
- Quantify the risk

Government

Government monitors risks keenly as risks have economy wide macro-economic financial implications, e.g.: failure of any bank (like Lehman Brothers) or down grading of any financial institution leading to spread of distrust among society at large.

Potential Labour disturbances affecting

- the company
- the production
- overall macro-economic environment

ADVANCED CAPITAL BUDGETING DECISIONS 16Q|0PE

Q1. What are various factors that affect Capital Budgeting?

A.

Inflation:

Inflation affects revenue and cost projections, altering assumptions of constant prices. Changes in product prices due to inflation can significantly impact projected revenues and costs, ultimately affecting profit margins and cash flows.

Technology:

Key Points on Technological Impact:

- Technology influences revenues (price and volume), suppliers, customers, and costs.
- Inflows and outflows are affected due to technological advancements.
- Technology increases risk and can impact discount rates.
- It can reduce or increase the cost of capital, based on the adaptability to technological changes.
- Technology improvements might reduce support costs but could also make current processes redundant.
- Flexible technological enhancements can affect capital costs positively.
- Companies may face additional Capex to transition to new technology-driven methods or products.
- Product life cycles could shorten, necessitating frequent updates or additional Capex.

Ways in which impact of technology can be incorporated into the Capital Budgeting Process

- Employ scenario analysis and sensitivity analysis to forecast various scenarios, considering volume changes, cost variations, etc.
- Continuous Evaluation: Regularly/ periodically update budgets to track changes in technology and market dynamics. Continuously evaluate project viability and adjust budgets accordingly.
- Adjusting Discount Rates: Modify discount rates based on technological risks; if technology simplifies processes, consider a lower discount rate. Conversely, higher risk from rapidly changing technology could necessitate a higher discount rate.

Government Changes

Government Policy Impact on Capital Budgeting:

Fiscal policies, encompassing tax incentives and disincentives, significantly affect after-tax cash flows for industries. Monetary policies, such as interest rates set by RBI, influence long-term cash flows for investments by impacting borrowing costs. Both fiscal and monetary policies impact domestic and international sectors.

	Domestic Capital Budgeting Decisions	International Capital Budgeting Decisions
Impact of Fiscal Policy	Domestic fiscal policies alter tax rates, promoting or discouraging industries, which directly influences tax rate and thereby after-tax cash flows.	Policy changes concerning taxes affect costs of projects relying on imports. Tax structures and agreements in different countries can have substantial financial implications for investments made outside the home country.
Impact of Monetary Policy	Reduced interest rates encourage borrowing, positively impacting project viability, regardless of the technological stability scenario. These policies significantly affect industry promotions and borrowing practices for substantial investments.	Fluctuations in forex rates can significantly alter project evaluations and input costs.

Q2. How are Risk & Uncertainty considered in decision making / Capital Budgeting process?

A.

Risk plays a crucial role in capital budgeting decisions. It represents the potential variability or uncertainty in the expected returns or cash flows from an investment project. When there's risk involved, decision-makers are aware that the actual returns might deviate from the projected or expected values due to various factors.

	Understanding Certainty, Risk & Uncertainty	Impact on Cash flows & Decision Making
Certainty	At the outset of the capital budgeting process, it is often assumed that cash flows associated with a project are certain and predictable	Decision making is straightforward and involves no complexities when cash flows are certain. There's no need for risk assessment or probability considerations.
Risk	This arises when there is a probability attached to the occurrence of cash flows. It involves assessing the likelihood of different cash flow scenarios	Decision making involves risk assessment, considering the probabilities attached to different cash flow scenarios. It requires evaluating potential outcomes and their likelihood.
Uncertainty	This exists when cash flows cannot be reasonably predicted or when attaching probabilities to cash flows becomes difficult due to the lack of clear patterns or trends.	Decision making becomes more complex when cash flows are entirely uncertain. Probabilities cannot be reasonably assigned, making it challenging to assess potential outcomes.

Q3. What is the need for addressing Risk & Uncertainty in decision making / Capital Budgeting process?

A.

Opportunity Cost: One needs to assess whether the returns from a project are superior to the potential returns from alternative investments. Consider the foregone opportunities in choosing one project over another.

Risk Premium: Projects with higher risk require a higher return to compensate for the additional risk taken. One needs to evaluate whether the potential reward aligns with the level of risk.

Q4. What are various internal and external factors affecting in decision making / Capital Budgeting process?

A. **INTERNAL FACTORS AFFECTING CAPITAL BUDGETING:**

Project-Specific Risks: Consider risks that are specific to the project, such as environmental factors, natural disasters to the specific location, or others specifically affecting the project.

Company-Specific Risks: Evaluate risks specific to the company, including issues like credit downgrades, management challenges, or unique aspects of the company's capital structure.

EXTERNAL FACTORS AFFECTING CAPITAL BUDGETING:

Industry-Specific Risks: Consider industry-wide risks such as regulatory changes, tax implications, subsidies, or any changes affecting the entire sector.

Market-Specific Risks: Assess risks related to the market, including supply chain disruptions, raw material shortages, or other market-driven challenges.

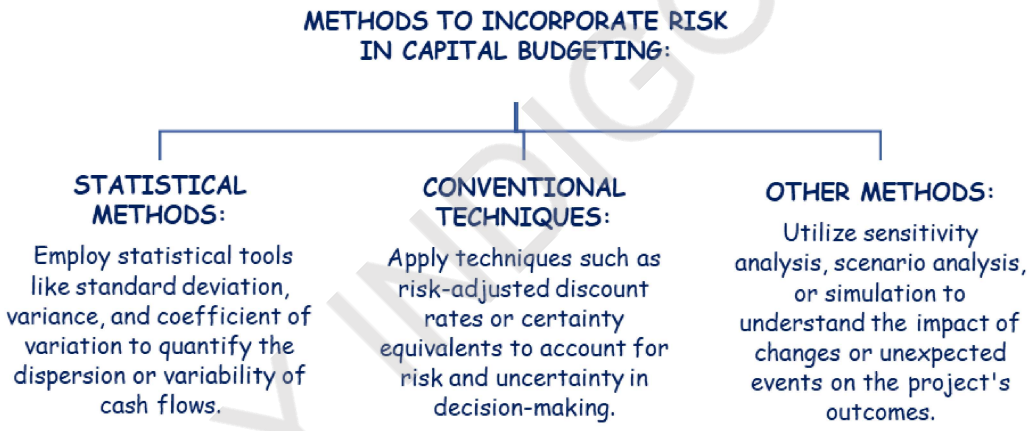
Competition Risks: Evaluate risks arising from competition, such as the entry of new competitors, technological advancements, or changes in market dynamics.

Economic Condition Risks: Consider risks influenced by economic factors like inflation, interest rate fluctuations, or changes in forex rates affecting costs or revenues.

International Risks: Assess risks arising from geopolitical events, international conflicts, trade sanctions, or global economic instability affecting businesses on an international

Q5. What are various methods for addressing Risk & Uncertainty in decision making / Capital Budgeting process?

A.



Q6. Elaborate on various Statistical methods used for Risk Assessment?

A.

1. **Probability-Weighted Cash Flows:**
   Calculate the expected cash flows by multiplying each cash flow by its respective probability and summing them to get the overall expected value.
   Probability-weighted cash flows are used to assess the expected value of cash flows by multiplying each cash flow by its respective probability and summing them up.

   Expected value = $\sum Pi\ NCFi$

   Expected Net Present Value:
   ENPV is the expected value of Net Present Value (NPV) considering different possible outcomes and their probabilities. To calculate ENPV, NPV is computed for each potential scenario, and these NPVs are weighted by their respective probabilities of occurrence.

For Single Period: ENPV $= \sum_{t=1}^{n} \frac{ENCF}{(1+k)^t}$

For Multi-Period: ENPV $= \frac{ENCF}{(1+k)^1} + \frac{ENCF}{(1+k)^2} + \cdots \frac{ENCF}{(1+k)^t}$

2. **Variance & Standard Deviation:** These Measure the dispersion or variability of cash flows around the mean to understand the range of potential outcomes and their likelihood. Variance: Variance (σ^2) measures the average squared deviation of individual cash flow values from their mean. Standard deviation (σ) is the square root of variance. It measures the extent of deviation or dispersion of cash flow values from their mean.

Variance, σ^2 $= \sum_{j=1}^{n} (NCF - ENCF)^2$

For Multi-Period, $\sigma^2 = \frac{\sum(x - \bar{x})^2}{n}$

With Probability, $\sigma^2 = \sum Pi(x - \bar{x})^2$

Difference Between Variance and Standard Deviation: Variance portrays the range or spread of cash flow values, emphasizing how far each value deviates from the mean. In contrast, standard deviation quantifies this variability or risk associated with the cash flow values.

Hiller's Method of Standard Deviation: Hiller suggests that uncertainty or risk associated with a capital expenditure proposal is represented by the standard deviation of expected cash flows. The more certain a project's outcomes are, the lower the deviation of cash flows from the mean. Certainty reduces variability in expected cash flows. Mean of present value of cash flows and standard deviation of such cash flows. the factors considered Formula:

Mean Calculation: $M = \sum_{i=0}^{n} (1 + r)^{-1} Mi$

Standard Deviation: $\sigma^2 = \sum_{i=0}^{n} (1 + r)^{-2i} \sigma_i^2$

3. **Coefficient of Variation:** It considers the ratio of standard deviation to the mean to compare the risk per unit of return among different projects or investments.
The coefficient of variation is a metric used to compare the risk of different projects or investments relative to their expected cash flows. It is computed by dividing the standard deviation of cash flows by the expected cash flow value.

Coefficient of Variation $= \frac{Standard\ Deviation}{Expected\ Cash\ Flow}$

Interpreting Coefficient of Variation:

- A project with a lower coefficient of variation is considered less risky per unit of cash flow compared to a project with a higher coefficient of variation.
- Lower risk per unit of cash flow is preferred when choosing between projects with varying levels of expected cash flows and associated risks.

Understanding these aspects of risk and employing appropriate strategies to address uncertainties in the capital budgeting process helps in making informed decisions and mitigating potential risks associated with different investment opportunities.

Q7. Elaborate on various conventional Techniques used for Risk Assessment?

A.

Risk-Adjusted Discount Rate (RADR):

- RADR is a method used to adjust the discount rate based on the risk associated with a project.
- The formula involves adding the risk premium to the risk-free rate to determine the discount rate. This rate is then used to discount the project's cash flows.
- RADR is calculated as Risk-Free Rate + Risk Premium. The risk premium varies depending on the project's risk level.
- Under CAPM, $k_e = R_f + \beta(R_m - R_f)$ $RADR, k_c = R_f + Risk\ Premium$

Profitability Index

The profitability index determines the relative attractiveness of an investment project by comparing the present value of future cash flows to the initial investment cost.

Profitability Index = $\frac{PV\ of\ Cash\ Inflows}{Initial\ Investment}$

Certainty Equivalent

Certainty equivalent evaluates the certainty or risk associated with cash flows, assessing the level of certainty compared to uncertain cash flows.

It compares certain cash flows to uncertain or expected cash flows, denoted as alpha (a).

STEPS:

- Risk Substitution: Substitute uncertain cash flows with equivalent certain ones by using CE coefficients (a).

  $$\alpha = \frac{Certain\ Cash\ Flow}{Expected\ Cash\ Flow from\ Risky\ Projects}$$

  It represents the proportion of certain cash flows against uncertain or expected cash flows. If a certain cash flow is 100% secure, the uncertain cash flow is higher than this.

  The certainty equivalent value a is used to adjust uncertain cash flows. Multiplying the certainty equivalent with uncertain cash flows yields the expected cash flow.

- Discounting: Use risk-free rate to discount cash flows after factoring risk through CE coefficients. Avoid using the firm's cost of capital to prevent double-counting risk.
- Capital Budgeting: Utilize traditional methods but adjust IRR comparison with the risk-free rate, and not the firm's required rate.

$$NPV = \sum \frac{\alpha * NCF}{(1+Rf)^n} - Initial\ Investment$$

Advantages of Certainty Equivalent Approach

- The method is straightforward, making it simple to comprehend and apply in decision-making processes.
- Easily adaptable for varying risk levels associated with different cash flows. Allows adjustments for higher risk in specific years, enabling recalculations of NPV accordingly.

Disadvantages of Certainty Equivalent Approach

- Lacks an objective or mathematical technique for estimating certainty equivalents. Certainty equivalents are subjective and differ based on individual estimations.
- Certainty equivalents are determined by management based on their risk perceptions. Ignores the risk perception of shareholders who finance the project, limiting its use in corporate decision-making.

Q8. What are important points to be kept in mind when employing conventional techniques for Risk Assessment?

A

- Capital budgeting decisions necessitate a crucial understanding: for the same risk, it's impermissible to adjust both cash flows and the discount rate. Only one of these elements (cash flows or discount rate) should be adjusted for a particular risk.
- Choosing between adjusting cash flows or discount rates depends on the nature of uncertainty or risk associated with the project, maintaining consistency to avoid skewed evaluations.
- Understanding these conventional techniques, specifically risk-adjusted discount rates and certainty equivalents, aids in determining project viability by factoring in risk while discounting cash flows, contributing to informed investment decisions in capital budgeting scenarios.

Q9. Elaborate on Sensitivity Analysis

A. Sensitivity analysis assesses the impact of changes in input variables on the final output metrics, such as Net Present Value (NPV) or Internal Rate of Return (IRR), in capital budgeting decisions. It focuses on individual input factors (like sales volume, price per unit, discount rate, etc.) that affect the financial metrics like NPV or IRR.
Usually, it emphasizes negative movements to understand how changes in input variables could potentially decrease NPV, aiding decision-making strategies to mitigate negative outcomes.

Methodology: It involves changing one variable at a time while keeping other variables constant to observe the impact on the final output. For instance, understanding how a 2% increase or decrease in sales price affects NPV, assuming all other factors remain the same (ceteris paribus).

Steps:

1. Identify Influential Variables: Determine key variables that significantly impact the Net Present Value (NPV) or Internal Rate of Return (IRR) of the project.Variables could include costs, revenues, discount rates, inflation rates, project duration, etc.

2. Establish Mathematical Relationships: Create a mathematical model that represents the relationship between the identified variables and the NPV or IRR. For example, calculate NPV.
3. Vary Variables Individually: Adjust one variable at a time while keeping other variables constant to analyse its impact. Increase or decrease the value of each variable within a range to observe changes in NPV or IRR.
4. Analyse Impact on NPV or IRR: Evaluate how changes in each variable affect NPV or IRR.
5. Interpretation of Results: Identify which variables have the most significant impact on NPV or IRR. Determine the level of sensitivity of NPV or IRR to changes in these variables.

Advantages:

- Helps identify critical variables impacting financial metrics directly.
- Provides a clear understanding of the impact of individual input factors on the overall outcome.

Disadvantages:

- Assumes other variables remain constant, which might not align with real-world scenarios.
- Doesn't consider the probability of change; hence, it lacks realism in reflecting the actual dynamic business environment.

Q10. Elaborate on Scenario Analysis

A.

Scenario analysis evaluates multiple scenarios involving changes in various input variables simultaneously, unlike sensitivity analysis. It examines different possible situations or scenarios like best-case, base-case, and worst-case, considering a range of potential outcomes based on variations in multiple input factors. It aims to comprehend the effects of combined changes in input factors on financial metrics, catering to a broader understanding of potential outcomes.

Advantages:

- Considers multiple changes at once, providing a more comprehensive view.
- Incorporates diverse scenarios, covering a range of potential business conditions.

Disadvantages:

- The range of scenarios might still be limited and not cover all possible real-world situations.
- Can be complex and challenging to manage due to a large number of variables and scenarios possible.

Q11. What are differences between Sensitivity Analysis and Scenario Analysis?

- Scope: Sensitivity analysis involves analysing the impact of individual variables, while scenario analysis considers changes in multiple variables simultaneously.
- Complexity: Sensitivity analysis is simpler and straightforward, focusing on one factor at a time, whereas scenario analysis is more complex, dealing with multiple changes.

- Outcomes: Sensitivity analysis often results in simplistic outcomes concerning limited input variations, whereas scenario analysis provides varied and comprehensive outcomes.
- Approach: Sensitivity analysis changes one variable at a time in isolation, while scenario analysis constructs diverse scenarios by varying multiple factors, some of which may be correlated.

Understanding these two methods is crucial in comprehending the implications of changes in input variables on project evaluation metrics, aiding in more informed capital budgeting decisions.

Q12. What is Decision Tree Analysis?

A. Decision Tree Analysis

- Decision tree analysis involves depicting decision-making processes via a branching tree-like structure, where choices and potential outcomes are evaluated sequentially.
- Integral in capital budgeting, decision trees assist in assessing multiple scenarios, weighing outcomes, and making rational investment decisions.

Structure of a Decision Tree:

At a decision node, a choice is made, leading to various possible outcomes represented at chance nodes.

- Outcomes, such as good, bad, best case, worst case, or proceed and don't proceed, reflect potential scenarios branching from decision points.
- The tree structure denotes a hierarchy where outcomes are evaluated systematically, leading from right to left.
- The analysis begins by computing expected monetary value (NPV) at the end nodes, moving backward to determine the most rational path.
- Rational decisions are made by choosing paths that maximize profits or minimize costs, not driven by personal preferences.

Key Nodes and Components:

- Decision nodes: Points where choices are made regarding various alternatives.
- Events/ Chance nodes: Represent outcomes or events with associated probabilities.
- Outcomes: Depicted as circles, representing potential results of decisions and events.

Application of Probabilities

Probabilities associated with chance nodes indicate the likelihood of specific outcomes, providing a nuanced understanding of potential scenarios.

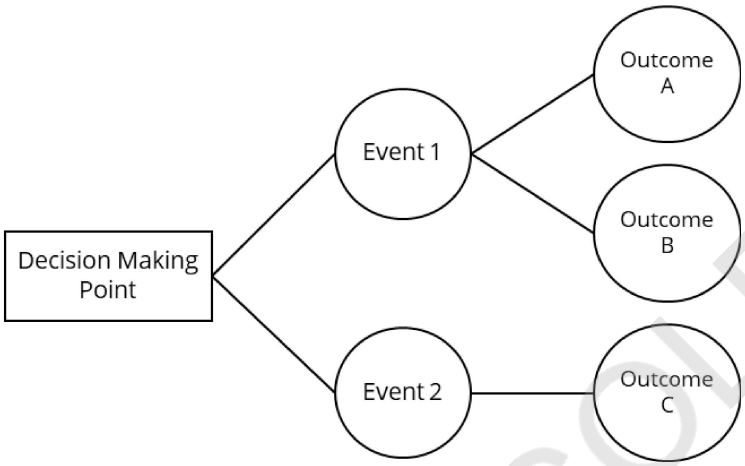
Decision-Making Process in Decision Trees

The evaluation starts from the right (decision nodes) and progresses leftwards, assessing alternatives logically based on monetary implications.

Steps in Decision Tree Analysis:

- Define the investment problem.
- Identify alternatives for evaluation.
- Draw a decision tree.
- Evaluate alternatives using the decision tree structure.
- Make a rational decision based on maximizing profits or minimizing costs.

Diagram of Decision Tree:



In a decision tree when joint probabilities are computed, the computation starts from right to left and not left to right.

Q13. How is Monte Carlo Simulation exercise conducted?

A.

1. **Monte Carlo Simulation Process:**

   Originating from Monaco's resort town, Monte Carlo, this method utilizes mathematical and statistical tools to simulate outcomes, particularly in gambling and risk analysis.

   The process involves choosing random paths using a random number generator and analysing multiple outcomes to create a distribution curve, showcasing a range of potential results.

2. **Simulation Application and Decision-Making:**

   Monte Carlo simulation helps in projecting multiple outcomes, generating a range of possible Net Present Values (NPVs) rather than a single value, aiding in decision-making.

   It provides insights into various scenarios, assisting in risk assessment and allowing a more comprehensive understanding of potential returns and uncertainties in investment decisions.

3. **Understanding Simulation Elements:**

- Parameters: Input variables controlled by the investor in a simulation model, representing factors within their control, such as investment costs or interest rates.
- Exogenous Variables: Uncontrollable inputs with stochastic nature, such as market prices, which exhibit probability distributions without precise predictability.
- Stochastic Variables: These variables cannot be precisely determined but possess probability distributions, contributing to the uncertainty within the simulation model.

4. **Practical Application and Process Steps:**

Step 1: Model Creation

- Identify Exogenous Variables: These are stochastic (random) variables in the model that influence outcomes but are beyond our control.
- Determine Parameters: Inputs to the model, some are in control (modifiable) while others are not.
- Develop Model: Create a model that accounts for various exogenous variables and parameters affecting the outcome (e.g., Net Present Value - NPV).

Step 2: Parameter Specification and Probability Distribution

- Assign Parameter Values: Specify values for parameters within the model.
- Define Probability Distributions: Establish probability distributions for exogenous variables (e.g., inflation rate, GDP, market sale price) as these are uncertain and not directly measurable.

Step 3: Random Value Selection

- Generate Random Numbers: Choose random numbers.
- Map to Probability Distribution: Use the random numbers to select corresponding values from the established probability distributions of exogenous variables.

Step 4: Iterative Process

- Choose Exogenous Variables: Based on random numbers, select values from probability distributions of exogenous variables.
- Repeat Iteratively: Conduct multiple iterations (large number) to acquire a substantial set of NPV values.

Step 5: NPV Computation

- Calculate NPV: Compute NPV values based on the chosen values of exogenous variables in each iteration.

Step 6: Analysis and Visualization

- Plot NPV Probability Distribution: Create a probability distribution plot of NPV values obtained from multiple iterations.
- Compute Mean and Standard Deviation: Calculate the mean and standard deviation of the NPV values.

Step 7: Outcome Assessment

- Define Confidence Intervals: Determine the range of NPV outcomes within defined confidence intervals, indicating the level of certainty or uncertainty associated with the NPV estimation.

By following these steps, a Monte Carlo simulation allows for a comprehensive assessment of NPV under varying conditions and uncertainties, providing insights into potential outcomes and associated risks.

Advantages of Monte Carlo Simulation in Capital Budgeting:

- Range of Outcomes: Provides a range of potential outcomes, allowing identification and consideration of both good and bad outcomes.
- Handling Exogenous Variables: Capable of managing and incorporating exogenous variables with their uncertainties into the analysis.
- Handling Complex Interdependencies: Considers complex interdependencies between variables, compelling decision-makers to consider uncertainties and interdependencies in decision-making.

Disadvantages of Monte Carlo Simulation in Capital Budgeting:

- Computational Complexity: Conducting numerous simulations for thousands or millions of inputs becomes laborious and computationally challenging.
- Difficulty in Probability Distribution: Difficult for decision-makers to provide a precise probability distribution for all variables due to uncertainties.
- Lack of Precision: The imprecise nature of simulations leads to discomfort, especially in dealing with extreme or tail outcomes, where decision-makers need more precise information for critical decisions.
- Complex Modelling by Experts: Expert-led modelling can become overly intricate, involving numerous variables, distributions, and models, which might be too convoluted for practical use.
- Risk Assessment and NPV Impact: Usage of a risk-free rate for discounting in complex models may not accurately represent actual project risk, resulting in NPV values that significantly differ from expected outcomes, overlooking crucial adjustments for capital and risk within cash flows.

Q14. How are Replacement Decisions made?

A. Replacement decisions involve comparison between an old machine and a new machine in terms of cash flows, useful life, costs including depreciation, and potential tax implications.

Evaluates whether replacing the old machine with a new one is beneficial based on factors like increased efficiency, productivity, and tax considerations.

Structured Approach for Replacement Decision:

- Step 1: Initial Net Cash Outflow Calculation:

  Computes the net cash outflow for both the old and new machines, considering the difference between the book value and market value, and tax implications.

  Old Machine: (Book Value – Market Value) *Tax Rate = Tax Savings

  New Machine: Purchase Value of New Machine

  Cash Flow = Cost of New Machine – (Tax Savings+ Market Value of Old Machine)

- Step 2: Evaluation of Changing Cash Flows:

  Assesses the changes in cash flows, operating costs, and depreciation to determine the impact on costs and benefits.

  (Change in Sales +/- Change in Operating Cost – Change in Depreciation)*(1- Tax) + Change in Depreciation

  OR

  (Change in Sales +/- Change in Operating Cost)*(1- Tax) + (Change in Depreciation * Tax)

- Step 3: Present Value of Cash Flows:

  Determines the present value of all cash flows for both machines, incorporating salvage values and yearly cash flows.

  Cash Inflows = Present Value of Yearly Cash Flows + Present Value of Salvage

- Step 4: Comparative Analysis - NPV Computation:

  NPV computation is executed, where the benefits (present value of cash flows) are compared against the costs. If NPV > 0, replacement is recommended.

  Step 1+ Step 3

Q15. What is an Optimum Replacement Cycle? Elaborate

A. **Continuous Replacement Cycle:** Sometimes, projects involve continuous replacement cycles, altering the NPV decision rules. To determine the optimal replacement cycle, the concept of Equivalent Annual Cost (EAC) is used.
EAC Formula: EAC = PVCF/PVAF

Efficiency and Operating Costs: The decision considers the machine's aging, leading to reduced efficiency, increased operating costs, and decreased resale value. This influences the determination of the optimal replacement cycle through the EAC concept.

Computation: Lower EAC values indicate lower annual costs associated with replacements over the project's life.

Optimum Replacement: The replacement cycle or equipment option with the lowest EAC represents the most cost-effective choice in terms of annual costs when considering ongoing replacements or equipment upgrades and ensure that on an annualized basis, it incurs the least cost over the project's life or the replacement cycle.

Q16. What is adjusted present value?

A. APV is the summation of the base case NPV and the present value of tax benefits on interest payments. Separates the investment and financing decisions, evaluating project returns and tax benefits independently.

Adjusted PV = Base Case NPV (on unlevered cost of capital + PV of tax benefits on interest

SECURITY ANALYSIS 24Q|5PE

Q 1. What is Fundamental Analysis?

A. Fundamental Analysis

- Fundamental Analysis is based on the assumption that the share prices depend upon the future dividends expected by the shareholders.
- The present value of the future dividends can be calculated by discounting the cash flows at an appropriate discount rate and is known as the 'intrinsic value of the share'.
- The intrinsic value of a share, according to a fundamental analyst, depicts the true value of a share.
- A share that is priced below the intrinsic value must be bought, while a share quoting above the intrinsic value must be sold.
- The price the shareholders are prepared to pay for a share is the present value of the dividends they expect to receive on the share and this is the price at which they expect to sell it in the future.

Q2. What are Components of Fundamental Analysis?

A. Economic Analysis, Industry Analysis and Company Analysis
(Also Summarize briefly the answers to questions below)

Q3. What is economic Analysis and what are the techniques used in it?

A. Economic Analysis

- Growth rates of National Income
- Growth rates of various industries
- Pay commission.
- Inflation in the economy
- Monsoons

Techniques used in Economic analysis are

(i) Anticipatory Surveys
(ii) Barometer/ Indicator Approach
(iii) Economic Model Building Approach

Q4. What is Industry analysis and what are the techniques used in it?

A. Industry Analysis

The basic profitability of any company depends upon the economic prospects of the industry to which it belongs. The are as follows.

(i) Product Life Cycle	➢ High Profitability in initial and growth stages ➢ Medium profitability in maturity stage

		➢ Sharp decline in last stage of growth
(ii)	Demand Supply Gap	➢ Excess supply reduces the profitability Insufficient supply improves the profitability
(iii)	Barriers to Entry	➢ Industry with high profitability attracts new investments ➢ Barriers are innate to the product, technology etc. ➢ Barriers may be created by existing firms in the industry.
(iv)	Government Attitude	➢ Government attitude is crucial in determining prospects of the industry.
(v)	Competition in the Industry	Several factors such as ➢ Market leadership. ➢ Competition in domestic and foreign markets ➢ Product differentiation Type of industry in which the firm operates determines the performance of the industry.
(vi)	Cost Conditions and Profitability	Profitability depends upon ➢ Cost control measures adopted by the units. ➢ Production capacity in terms of installation, idle and operating. ➢ Level of CAPEX required for productive efficiency.
(vii)	Technology and Research	Industries which update themselves have a competitive advantage over others in terms of quality, price etc

Techniques used in Industry Analysis

(i) Regression Analysis

Investor diagnoses the factors determining the demand for output of the industry through product demand analysis. Factors to be considered are GNP, disposable income, per capita consumption / income, price elasticity of demand.

For identifying factors affecting demand, statistical techniques like regression analysis and correlation are used.

(ii) Input Output Analysis

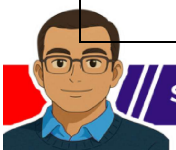
It reflects,

- Flow of goods and services through the economy
- Intermediate steps in production process as goods proceed from raw material stage through final consumption

Q 5. What are the company specific factors considered in fundamental Analysis and what are the techniques used therein?

A. Factors Considered

(i)	Book value of a share	$BV\ per\ Share = \frac{Total\ Net\ Worth}{Number\ of\ Shares}$ (a) The book value is based upon the historical costs of the assets of the firm. (b) Generally, book value per share represents intrinsic worth of the share. But often, the market price of the share reflects the future earnings potential of the firm which may have no relationship with the value of its assets.
(ii)	Size and ranking	(a) Numbers like ➢ Net capital employed ➢ Net profits ➢ Return on Investments ➢ Sales can be compared with similar data of other companies in the same industry group. (b) It is useful to assess the position of the company in the industry.
(iii)	Sources and usage of funds	(a) The resources of an organization are always limited, and it must make the best use of these resources. (b) Fund flow analysis is used to analyze the adjustments in financial position of an organization in relation to sources and application of funds. (c) It gives information regarding the company's working, investing, and financing activities within a particular period.
(iv)	Growth record	(a) Growth indicators such as ➢ Price Earnings Ratio ➢ Percentage growth rate of EPS ➢ Percentage growth in capacity levels of a company can be analyzed to take decision. (b) The plans of the company in terms of expansion or diversification, can be known from ➢ The Directors' Reports,



		➢ The Chairman's statements ➢ The future capital commitments as shown by way of notes in the balance sheets. ➢ Technological developments in the concerned fields
(v)	Competitive Advantage	(a) A company's long-term success is driven largely by its ability to maintain its competitive advantage. (b) Competitive advantage creates a shield around a business that allows competitors at a distance.
(vi)	Quality of Management	(a) Quality of management must be seen with reference to the experience, skills, and integrity of the persons at the helm of affairs of the company. (b) Investor's confidence on the management, its policy vis-a - vis ➢ Relationship with the investors ➢ Dividend policy ➢ Financial performance record etc.
(vii)	Corporate Governance	Effectiveness of corporate governance of an organization depends upon ➢ Compliance with SEBI (LODR) Regulations 2015 ➢ Quality and timeliness of company financial disclosures ➢ Quality of independent directors
(viii)	Pattern of existing shareholding	An analysis of the pattern of existing stock holdings of the company would also be relevant. This would show the stake of various parties in the company.
(ix)	Location and Labour-Management Relations	(a) Location of the company's manufacturing facilities determines its economic viability such as ➢ Availability of raw materials ➢ Availability of skilled labor ➢ Nearness to markets. (b) State of Labour management relations in the company is also important for analysis.
(x)	Marketability of shares	(a) Shares of a company should actively trade in the market. Mere listing of a share on the stock exchange does not automatically mean that the share can be sold or purchased at will. (b) The other relevant factors are the speculative interest in the particular scrip, the particular stock exchange where it is traded and the volume of trading

Techniques

- Correlation & Regression Analysis: Under this technique, relationship between variables belonging to economy, industry and company are found out. The main advantage of such an analysis is the determination of the forecasted values along with the ability to test the reliability of the estimates.

- Trend Analysis: It gives an insight into the historical behaviour of the variable.
- Decision Tree Analysis: A range of values of the variable with probabilities of occurrence of each value is taken up. The limitations are reduced through decision tree analysis and use of simulation techniques. Decision is taken sequentially with probabilities attached to each sequence.

Q6. What is technical analysis and What are its assumptions **(Important) (Past Exams)**

A. Technical Analysis visualizes the actions of market participants in the form of stock charts. Patterns are formed within the charts, and these patterns help a trader identify trading opportunities. Technical analysis is used best to identify short term trades.

A technical analyst attempts to answer two basic questions:

(a) Is the pattern identifiable?

(b) If yes, then when will the pattern reverse?

Assumptions in Technical Analysis

- Market Discounts everything: All known and unknown information in the public domain is reflected in the latest stock price
- Rational and irrational aspects: The supply and demand are governed by several factors which can be rational or irrational.
- Price moves in trends: All major moves in the market are an outcome of a trend. The concept of trend is the foundation of technical analysis. Once the trend is established, the price moves as per the trend.
- History tends to repeat itself: The price trend tends to repeat itself. The market participants consistently react to price movements remarkably similar way, every time the price moves in a certain direction.

Q7. What are Pros & Cons of Technical Analysis? (Past Exam)

A. Pros:

1. Under influence of crowd psychology trends persist for some time - Technical analysis help in identifying these trends early
2. Shift in demand and supply are gradual rather than instantaneous. Technical analysis helps in detecting this shift rather early
3. Fundamental information about a company is observed and assimilated by the market over a period. Hence price movement tends to continue in same direction till the information is fully assimilated in the stock price.

Cons:

1. Most technical analysts cannot offer a convincing explanation for the tools employed by them.
2. (b) Empirical evidence in support of random walk hypothesis cast its shadow over the usefulness of technical analysis.
3. (c) By the time an uptrend and down trend may have been signalled by technical analysis it may already have taken place.

4. (d) Ultimately technical analysis must be a self-defeating proposition. With more people employing it, the value of such analysis tends to decline.

Q8. Explain Dow Jones theory.

A. The Dow Theory was introduced to the world by Charles H. Dow, who also founded the Dow-Jones financial news service (Wall Street Journal). This theory is built on two indices, The Dow Jones Industrial Average (DJIA) & The Dow Jones Transportation Average (DJTA)

The Dow Jones Industrial Average (DJIA)	It is a stock market index that tracks 30 large, publicly owned blue-chip companies trading on the NYSE and NASDAQ
The Dow Jones Transportation Average (DJTA)	It is a price-weighted average of 20 transportation stocks traded in the United States.

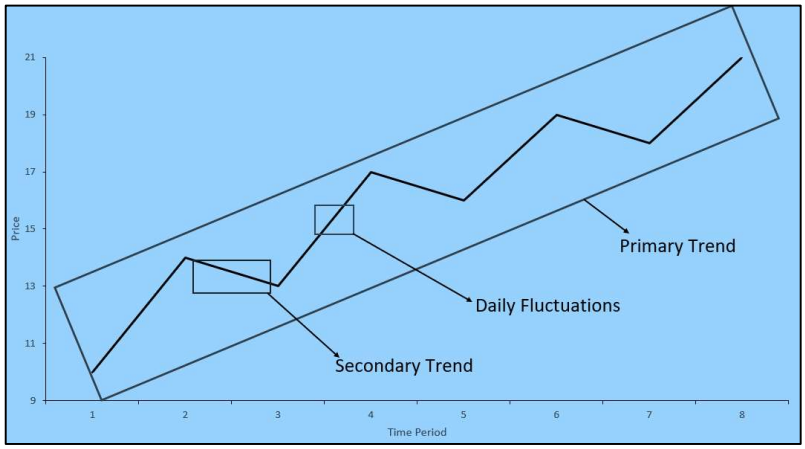
This theory explains that the market is in an upward trend if one of the indices (i.e., DJIA or DJTA) advances above a previous important high and is accompanied or followed by a similar advance in the other index.

For example, if the Dow Jones Industrial Average (DJIA) climbs to an intermediate high, the Dow Jones Transportation Average (DJTA) is expected to follow suit within a reasonable period.

Q9. What are the Trends as per the Dow Theory?

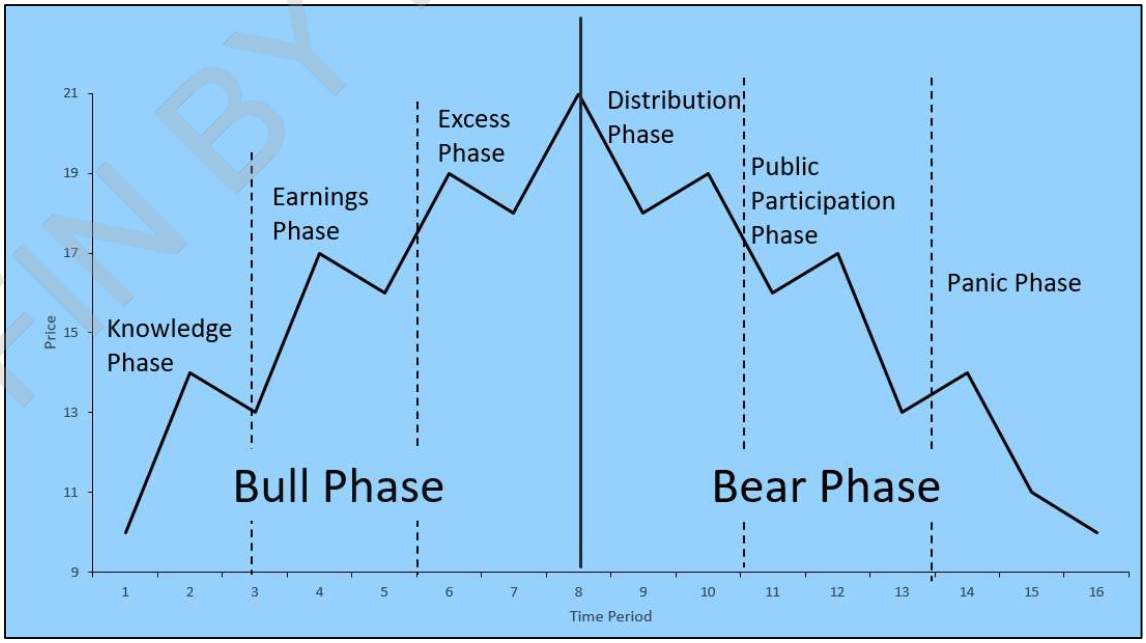
A. At any given time in the stock market, three trends are in effect. They are

(i) Primary Trend	➢ It is the main trend in the market. ➢ Lasts from one year to 36 months or longer ➢ Commonly called bull (upward) or bear (downward) market. ➢ Volume must confirm the trend. Low volume signals a weakness in the trend.
(ii) Secondary Trend	➢ It is shorter in duration than the primary movement and is opposite in direction. ➢ It lasts from two weeks to a month or more
(iii) Daily Fluctuations	➢ These are the narrow movements from day-to-day. ➢ These fluctuations must be carefully studied, as they go to make up the longer movement in the market.



Charles Dow proposed that the primary trend would have three moves namely as follows

Bull Phase (Upward Trend)	Knowledge Phase / Accumulation Phase	Far sighted investors such as FIIs, DIIs, Mutual funds invests in this phase
	Earnings Phase	Earnings goes up. Public starts making investments
	Excess Phase	Speculation is high in the market. Knowledge investors exit.
Bear Phase (Downward Trend)	Distribution Phase	Exit of big investors
	Public participation Phase	Sell off by public
	Panic Phase	Exit by all traders and investors & Knowledge investors start getting interested in making investments



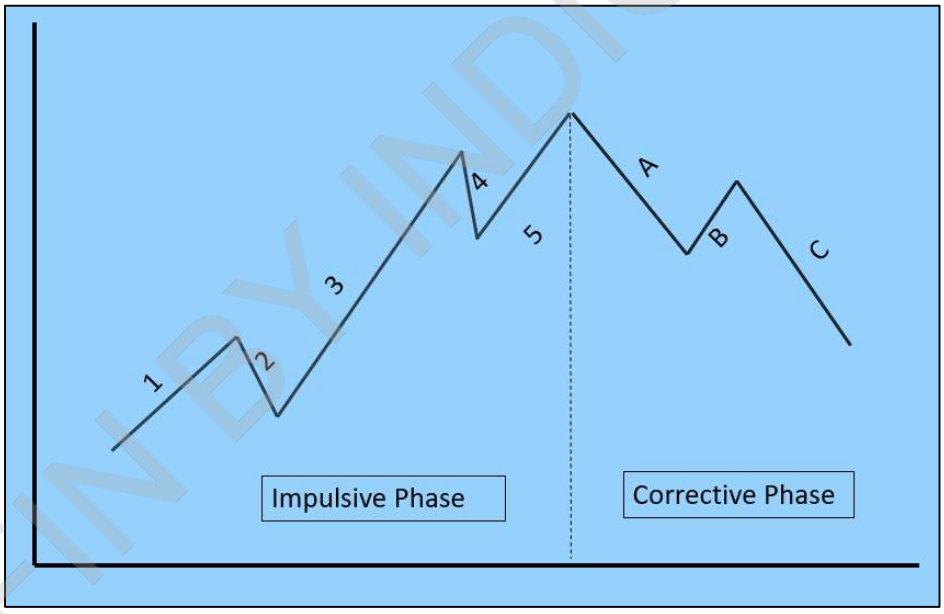
Q10. Explain the Elliot Theory of technical analysis.

A. Ralph Elliot formulated Elliot Wave Theory in 1934. This theory was based on analysis of 75 years stock price movements and charts. Elliot found that the markets exhibited certain repeated patterns or waves.

Elliot found that the markets exhibited certain repeated patterns or waves. As per this theory, wave is a movement of the market price from one change in the direction to the next change in the same direction.

As per this theory, a complete cycle consists of 8 waves – 5 impulsive and 3 correctives:

Impulsive patterns (Basic waves)	These waves shall move in the direction of the basic movement. This movement can indicate bull phase or bear phase
Corrective patterns (Reaction waves)	These waves are against the basic direction of the basic movement. Correction involves correcting the earlier rise in case of bull market and an up move in case of bear market.



From the above image, we can analyze the following

1 to 5	Upward Trend
A to C	Downward Trend
Wave 3	Greater than Wave 1 and Wave 2
Wave 2	Less than Wave 1
Wave 4	Less than Wave 3

Q11. Explain Random Walk Theory **(Important)**

A. According to this theory,

- Prices of shares in stock market can never be predicted.
- The reason is that the price trends are not the result of any underlying factors, but that they represent a statistical expression of past data.
- There may be periodical ups or downs in share prices, but no connection can be established between two successive peaks (high price of stocks) and troughs (low price of stocks).

Q12. What are various charting techniques?

A. Line Charts, Bar Charts, Candlestick Charts, Point & Figure Charts

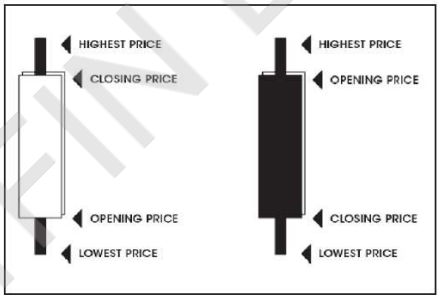
Q13. Elaborate on Various Charting Techniques used in Security Analysis

A. Technical analysts use price charts to identify trends and make investment decisions. Four major chart types are used, each offering a different level of price detail.

(i) Line Chart - The simplest chart type. Only the closing price of each period is plotted as a point, and these points are connected by a line. Best used for identifying the broad direction of a trend over time.

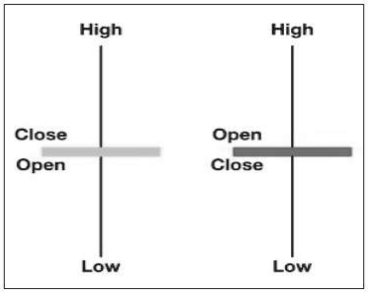
(ii) Bar Chart: Each trading period is shown as a vertical bar spanning the lowest to highest price. Short horizontal ticks on the left and right mark the opening and closing prices respectively. It provides more information than a line chart.

(iii) Japanese Candlestick Chart: Like bar charts, candlestick charts show Open, High, Low and Close prices. The key difference is the coloured rectangular body (the "candle") which immediately conveys whether the period was bullish or bearish.



When Opening Price > Closing Price => Black or Red Candlestick => Bearish Signal

When Closing Price > Opening Price => White or Green Empty Candlestick => Bullish Signal

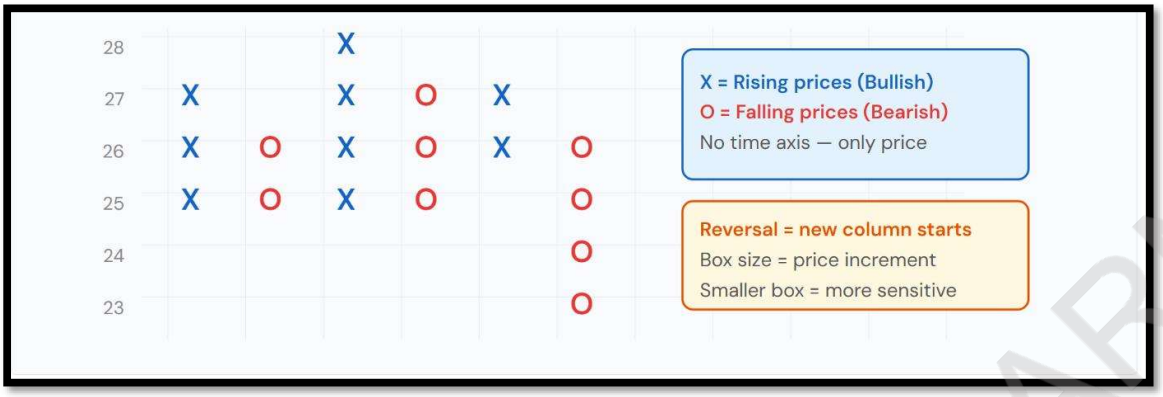


Doji Candlestick

Opening = Closing => Indecisive

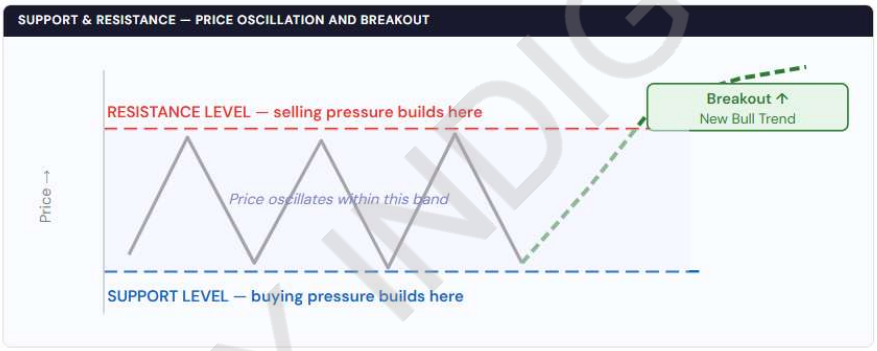
(iv) Point and Figure Chart

Used to detect trend reversals. Unlike other charts, time is not plotted on the X-axis. X marks rising prices and O marks falling prices. Two parameters define the chart: Box Size (value of each box) and Reversal Criterion (boxes needed to switch columns).



Q.14 What are Support and Resistance Levels?

A Resistance Level is a past peak - a price ceiling where selling pressure builds. A Support Level is a past trough - a price floor where the buying pressure builds. Prices tend to oscillate between these two levels. A breakout beyond either level signals a significant new trend.



Q15. What are various Market Indicators?

A. Following are various market indicators:

a. Market Breadth

It measures the strength of the market according to the number of stocks that advance or decline on a particular trading day

When a breadth indicator diverges with a stock index, it may warn of a potential change in the direction in the index.

b. Volume of Transactions

Volume measures the number of shares traded in a stock. Volume can be an indicator of market strength, as rising markets on increasing volume are typically viewed as strong and healthy.

The following are various scenarios in respect to the volumes.

Index	Volumes	Scenario
Rising	Increasing	Bull Phase
Falling	Increasing	Bear Market
Rising	Decreasing	Bull Phase reversal
Falling	Decreasing	Bear Phase reversal

c. Confidence Index

It measures investor confidence by comparing the respective average yields of high-grade bonds to lower grade bonds.

The yield on higher grade bonds is lower than riskier bonds, so the confidence index will never be more than 1

Confidence Index=(Average yield on high grade bond)/(Average yield on low grade bond)

Rising Confidence Index	(i) High confidence level (ii) Low Risk (iii) Lead indicator to rise in market.
Fall in Confidence Index	(i) Low confidence levels (ii) High Risk (iii) Lead indicator to fall in market.

d. Relative Strength Analysis

It measures the speed and change of price movements. The RSI oscillates between zero and 100. Traditionally the RSI is considered overbought when above 70 and oversold when below 30.

Investors will earn higher returns by investing in securities which have demonstrated relative strength in the past because the relative strength of a security tends to remain undiminished over time.

e. Odd Lot Theory

This theory is a contrary - opinion theory. It assumes that the average person is usually wrong and that a wise course of action is to pursue strategies contrary to popular opinion. The odd-lot theory is used primarily to predict tops in bull markets, but also to predict reversals in individual securities

Q16. **How does one interpret various price patterns using charts / Trends? (Past Exam) (Important)**

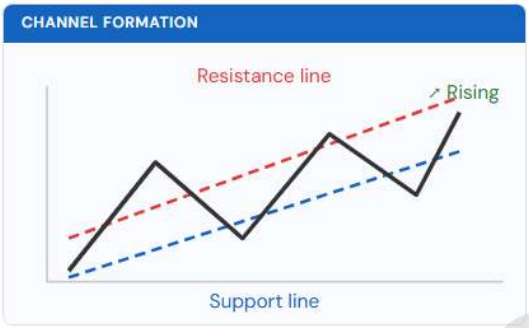
Price patterns are recurring formations in charts that signal either a **continuation** of the current trend or a **reversal**. Key patterns are illustrated below.

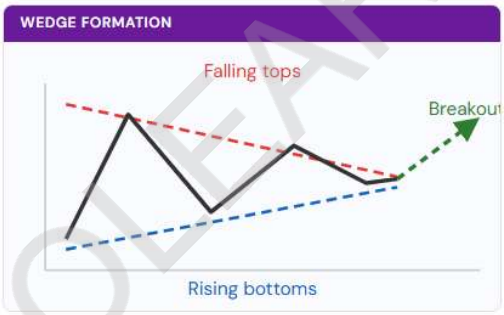
(a) Channel

A series of uniformly changing tops and bottoms. An upward channel → rising prices. A downward channel → declining prices.

(b) Wedge

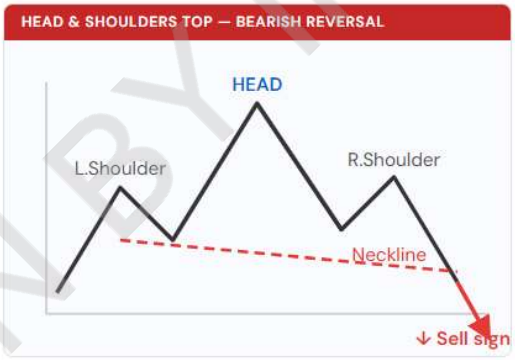
Tops and bottoms converge i.e moving in opposite directions or same direction at different rates. Signals an impending breakout.

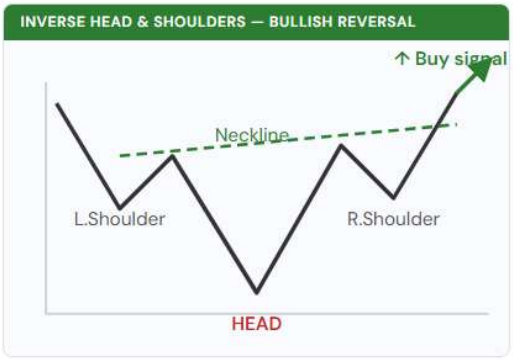




(c) Head and Shoulders

The most important reversal pattern. Comprises a left shoulder, a higher head, and a right shoulder. The neckline connects the lows between shoulders. A break below the neckline confirms a bearish reversal; an inverse pattern confirms a bullish reversal.



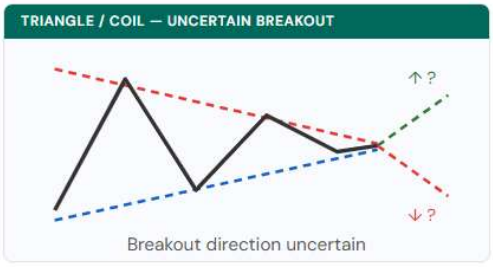


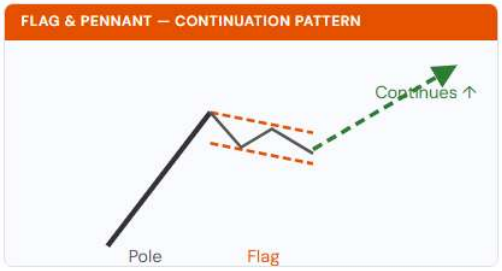
(d) Triangle / Coil

Price range narrows as tops fall and bottoms rise — converging into a point. Direction of breakout is uncertain. Pattern of indecision.

(e) Flags and Pennants

A brief consolidation phase after a sharp price move. The previous trend is likely to continue after the flag/pennant.





(f) Double Top & (g) Double Bottom

Double Top => price hits the same resistance level twice, then falls. Bearish reversal ↓

Double Bottom => price hits the same support level twice, then rises. Bullish reversal ↑

(h) Gap

A Gap is the difference between today's opening price and yesterday's closing price. A wider gap signals a stronger continuation of the observed trend.

Q17. What are Buy and sell signals provided by moving averages?

Bullish Trends (Buy Signal)	Bearish Trends (Sell Signal)
Stock price line rise through the moving average line when graph of the moving average line is flattering out.	Stock price line falls through moving average line when graph of the moving average line is flattering out.
Stock price line falls below moving average line which is rising	Stock price line rises above moving average line which is falling.
Stock price line which is above moving average line falls but begins to rise again before reaching the moving average line.	Stock price line which is slow moving average line rises but begins to fall again before reaching the moving average line.

Q18. Elaborate on Efficient Market Hypothesis. **(Important) (Past Exam)**

A. An efficient market is one in which the market prices of a security are an unbiased estimate of its intrinsic value. This means that market efficiency does not imply that the market price equals intrinsic value.

The price can deviate from the intrinsic value, but the deviations are random and uncorrelated with any observable variable.

Randomness of stock price is a result of efficient market that is caused to the following underlying reasons:

- Information is freely and instantaneously available to all market participants
- Keen competition among the market participants ensures that market will reflect intrinsic values
- Price change only response to new information that is unrelated to previous information and therefore unpredictable

Q19. What are Common Misconceptions about the Efficient Market Hypothesis? **(Important)**

A.

Misconception		**Reality**
(i)	The market has perfect forecasting abilities	This hypothesis merely implies that prices reflect all available information. It does not mean that the market possesses perfect forecasting abilities
(ii)	As price tends to fluctuate, it does not reflect fair value.	Unless prices fluctuate, they would not reflect fair value. Future is uncertain and the market is continually surprised.
(iii)	Lack of competence of FIIs, DIIs, portfolio managers.	Market efficiency exists because portfolio managers are doing their job well in a competitive setting
(iv)	Stock market is irrational due to random movement in the prices	If investors are rational and competitive, price changes are bound to be random.

Q20. What are challenges to EMH?

A. Following are the challenges:

(a) Information is neither freely available nor rapidly transmitted to all participants in the stock market.
(b) Human information processing capabilities are sharply limited.
(c) It is generally believed that investors' rationality will ensure a close correspondence between market prices and intrinsic values. But in practice this is not true.
(d) Powerful institutions and big operators wield high influence over the market. The monopolistic power enjoyed by them diminishes the competitiveness of the market.

The Efficient Market Hypothesis, like all theories, is an imperfect and limited description of the stock market. Most academic researchers consider efficient market hypothesis as a seminal breakthrough supported by considerable empirical evidence.

Q21. What are Differences between Fundamental Analysis and Technical Analysis?

A. Following are the differences:

Basis	Fundamental Analysis	Technical Analysis
Method	Prospects are measured by ➢ Economic analysis ➢ Industry analysis ➢ Company analysis	Predicts future prices and their direction using, ➢ Historical market data ➢ Price movements ➢ Volume ➢ Open Interest etc.
Rule	Prices of a share discounts everything.	Price captures everything
Usefulness	Long term investment	Short term investment

Q 22. What are various forms of EMH?

A. Eugene Fama suggested described three forms of market efficiency

(i) Weak-Form of market efficiency: Prices reflect all information found in the record of past prices, volumes, rates of return, block trades, insider transactions, and so on. This means that there is no relationship between the past and future price movements.

(ii) Semi strong Form of market efficiency: Price reflects not only all past information but also all other public information and by using this information investors will not be able to earn above-normal returns after adjusting for risk

(iii) Strong Form of market efficiency: Price reflects all public and private information

Q 23. What are various tests to determine levels of efficiency of markets? **(Important & Past Exam)**

A. A. Weak form of Market Efficiency

a) Serial Correlation Test
b) Run Test
c) Filter Rule Test

B. Semi Strong Form of Market Efficiency

a) Event Studies
b) Portfolio Studies
c) Time Series Analysis

C. Strong Form of Market Efficiency

It is evaluated by analysing returns of

a) Corporate Insiders
b) Stock Exchange Specialists
c) Security Analysts

Q 24. What is Equity Research and what are the tools usually used in it?

A. Equity Research is that area of finance or Investment Banking that involves the analysis of company's financial performance and other factors to determine whether the equity share of the same company should be bought, sold, or continued to be hold.

This research can also be applied in any merger and acquisition to decide about the swap or exchange ratio.

People involved in Equity Research i.e., the Equity Research analysts are employed by Investment Banks, Mutual Funds, Hedge Funds, Wealth management firms, stockbrokers etc. These people undertake industry research and company research using various methods such as

- Company Annual Reports
- Company Investor presentations / Conference calls
- Industry publications
- Interacting with management of various companies and industry bodies

They use various tools like

- Bloomberg
- Factcet
- Reuters
- Stockopedia
- CMIE

- Capitalline
- https://benzinga.com
- https://www.refinitiv.com
- https://marketxls.com
- https://www.stockopedia.com
- https://www.koyfin.com
- https://finbox.com
- https://www.gurufocus.com
- https://businessquant.com
- https://get.ycharts.com

SECURITY VALUATION 8Q|0PE

Q1. Differentiate between Macaulay and Modified Duration?

A. Macaulay Duration measures the number of years required to recover the true cost of a bond, considering the present value of all coupon and principal payments received in the future. = Sum of (CF x t x PVF)/ P

Modified Duration measures change in price of a bond for a given change in interest rate = Macaulay Duration / (1+y/n)

Q2. What is Immunization?

A. Through the process of immunization selection of bonds shall be in such manner that the effect of Price & reinvestment risk shall offset each other.
A portfolio of bond is said to be immunized if the value of the portfolio at the end of a holding period is insensitive to interest rate changes.
If the duration of a bond is equal to its holding period, then we ensure immunization of the same and hence, the bond is not having interest rate risk.

Q3. What are theories of Term structure of Interest Rates?

A.

(a) Expectation Theory: As per this theory the long-term interest rates can be used to forecast short-term interest rates in the future as long-term interest rates are assumed to unbiased estimator of the short-term interest rate in future.
(b) Liquidity Preference Theory: As per this theory investors are risk averse and they want a premium for taking risk. Long-term bonds have higher interest rate risk because of higher maturity, hence, long-term interest rates should have a premium for such a risk. Further, people prefers liquidity and if they are forced to sacrifice the same for a longer period, they need a higher compensation for the same. Hence, as per this theory, the normal shape of a yield curve is Positive sloped one.
(c) Preferred Habitat Theory (Market Segmentation Theory): This theory states that interest rate structure depends on the demand and supply of fund for different maturity periods for different market segments. In case there is a mismatch between these forces, the players of a particular segment should be compensated at a higher rate to pull them out from their preferred habitat; hence, that will determine the shape of the yield curve. Accordingly, shape of yield curve will be determined which can be sloping upward, falling or flat.

Q4. What is Convexity?

A. Modified Duration assumes a liner relationship between interest rates and bond prices. However, the relationship is in the form of a convex curve. In order to adjust the bond price for this convexity, a convexity adjustment factor is added to Modified Duration value to arrive at the right change in price given a change in the interest rates.

Q5. Explain features of Money Market Instruments

A. These instruments are like Bonds, the money market instruments are important source of finance to industry, trade, commerce and the government sector for meeting their short-term requirement for both national and international trade. These financial instruments provide also an investment opportunity to the banks and others to deploy their surplus funds so as to reduce their cost of liquidity and earn some income.

The instruments of money market are characterised by

(a) Short duration,

(b) Large volume

(c) De-regulated interest rates.

(d) The instruments are highly liquid.

(e) They are safe investments owing to issuers inherent financial strength.

Q6. What are Zero coupon bonds? Explain their key features.

A.

- These bonds do not pay any coupon during the life of the bonds.
- Zero Coupon Bonds (ZCBs) are issued at discounted price to their face value, which is the amount a bond will be worth when it matures or comes due.
- When a ZCB matures, the investor will receive one lump sum (face value) equal to the initial investment plus interest that has been accrued on the investment made.
- The maturity dates on ZCBs are usually long term.
- These maturity dates allow an investor for a long-range planning. ZCBs issued by banks, government and private sector companies.
- However, bonds issued by corporate sector carry a potentially higher degree of risk, depending on the financial strength of the issuer and longer maturity period, but they also provide an opportunity to achieve a higher return.

Q7. What are role and responsibilities of valuers? **(Important)**

A. ***Role of Valuers***

The valuations made by a Valuers are required statutorily for the following purposes: -

(a) Mergers/Acquisitions/ De-Mergers/Takeovers: Valuation is mandated in cases of Mergers/ Acquisitions/ De-Mergers/ Takeovers by the Income Tax Act, 1961 for the purpose of determining the tax (if any) payable in such cases.

(b) Slump Sale/ Asset Sale/ IPR Sale: Valuation is required by Insolvency and Bankruptcy Code, 2016 in case of liquidation of company and sale of assets of corporate debtor for the purpose of ascertaining fair value or liquidation value.

(c) Conversion of Debt/ Security: Valuation is a necessitated by RBI for Inbound Foreign Investment, Outbound Foreign Investment and other business transactions.

(d) Capital Reduction: SEBI regulations such as ICDR/ LODR/ Preferential Allotment etc. also require valuations to be made for listed securities for various purposes on a period basis.

(e) Strategic Financial Restructuring: Various statutes such as Companies Act, 2013, SARFAESI Act, 2002, Arbitration and Conciliation Act 1996 etc., warrant valuations to be made for meeting various statutory requirements. Valuation is also made for fulfilling IND AS purposes and may also be made on Court Orders.

Responsibilities of Valuers (IPICIGRO)

Under Rule 12(e) of the Companies (Registered Valuers and Valuation) Rules, 2017 the Model Code of Conduct for Registered Valuers is as follows:

Integrity and Fairness

1. A valuer should in the conduct of his/its business follow high standards of integrity and fairness in all his/its dealings with his/its clients and other valuers.

2. A valuer should maintain integrity by being honest, straightforward, and forthright in all professional relationships.

3. A valuer should endeavour to ensure that he/it provides true and adequate information and shall not misrepresent any facts or situations.

4. A valuer should refrain from being involved in any action that would bring disrepute to the profession.

Professional Competence and Due Care

5. A valuer should render at all times high standards of service, exercise, due diligence, ensure proper care and exercise independent professional judgment.

6. A valuer should carry out professional services in accordance with the relevant technical and professional standards that may be specified from time to time

7. A valuer should continuously maintain professional knowledge and skill to provide competent professional service based on up-to-date developments in practice, prevailing regulations/guidelines and techniques.

8. In the preparation of a valuation report, the valuer should not disclaim liability for his/its expertise or deny his/its duty of care, except to the extent that the assumptions are statements of fact provided by the company and not generated by the valuer.

9. A valuer should have a duty to carry out with care and skill, the instructions of the client insofar as they are compatible with the requirements of integrity, objectivity and independence.

Independence and Disclosure of Interest

10. A valuer should act with objectivity in his/its professional dealings by ensuring that his/its decisions are made without the presence of any bias, conflict of interest, coercion, or undue influence of any party, whether directly connected to the valuation assignment or not.

11. A valuer should not take up an assignment under the Act/Rules if he/it or any of his/its relatives or associates is not independent in relation to the company and assets being valued.

12. A valuer should maintain complete independence in his/its professional relationships and shall conduct the valuation independent of external influences.

13. A valuer should wherever necessary disclose to the clients, possible sources of conflicts of duties and interests, while providing unbiased services.

14. A valuer should not deal in securities of any subject company after any time when he/it first becomes aware of the possibility of his/its association with the valuation, and in accordance with the SEBI (Prohibition of Insider Trading) Regulations, 2015.

15. A valuer should not indulge in "mandate snatching" or "convenience valuations" in order to cater to the company's needs or client needs. A valuer should communicate in writing with a prior valuer if there is knowledge of any prior valuer having been appointed before accepting the assignment.

16. As an independent valuer, the valuer should not charge success fee.

17. In any fairness opinion or independent expert opinion submitted by a valuer, if there has been a prior engagement in an unconnected transaction, the valuer should declare the past association with the company.

Confidentiality

18. A valuer should not use or divulge to other clients or any other party any confidential information about the subject company, which has come to his/its knowledge without proper and specific authority or unless there is a legal or professional right or duty to disclose.

Information Management

19. A valuer should ensure that he/ it maintains written contemporaneous records for any decision taken, the reasons for taking the decision, and the information and evidence in support of such decision. This should be maintained so as to sufficiently enable a reasonable person to take a view on the appropriateness of his/its decisions and actions.

20. A valuer should appear, co-operate and be available for inspections and investigations carried out by the Registration Authority, any person authorised by the Registration Authority, the Valuation Professional Organisation with which he/it is registered or any other statutory regulatory body.

21. A valuer should provide all information and records as may be required by the Registration Authority, the Tribunal, Appellate Tribunal, the Valuation Professional Organisation with which he/it is registered, or any other statutory regulatory body.

22. A valuer while respecting the confidentiality of information acquired during the course of performing professional services, should maintain proper working papers for a period of three years, for production before a regulatory authority or for a peer review. In the event of a pending case before the Tribunal or Appellate Tribunal, the record should be maintained till the disposal of the case.

Gifts and hospitality

23. A valuer, or his/its relative should not accept gifts or hospitality which undermines or affects his independence as a valuer.

24. A valuer should not offer gifts or hospitality or a financial or any other advantage to a public servant or any other person, intending to obtain or retain work for himself/ itself, or to obtain or retain an advantage in the conduct of profession for himself/ itself.

Remuneration and Costs

25. A valuer should provide services for remuneration which is charged in a transparent manner, is a reasonable reflection of the work necessarily and properly undertaken and is not inconsistent with the applicable rules.

26. A valuer should not accept any fees or charges other than those which are disclosed to and approved by the persons fixing his/ its remuneration.

Occupation, employability and restrictions

27. A valuer should refrain from accepting too many assignments, if he/it is unlikely to be able to devote adequate time to each of his/ its assignments.

28. A valuer should not engage in any employment, except when he has temporarily surrendered his certificate of membership with the Valuation professional Organisation with which he is registered.

29. A valuer should not conduct business which in the opinion of the Registration Authority is inconsistent with the reputation of the profession.

Q8. What are precautions need to be taken by a valuer before accepting any valuation assignment? **(Important)**

A. A good valuation is much more than just numbers. While it is critical to get the maths and application right- it is equally important to have a comprehensive understanding of the narrative behind the valuation. Attention should be given to the following points while making a valuation:

- A good valuation does not provide a precise estimate of value. A valuation by necessity involves many assumptions and is a professional estimate of value. The quality and veracity of a good valuation model does not depend just on number

crunching. The quality of a valuation will be directly proportional to the time spent in collecting the data and in understanding the firm being valued.

- Valuing a company is much more than evaluating the financial statements of a company and estimating an intrinsic value based on numbers. This concept is getting more and more critical in today's day and age where most emerging business are valued not on their historical performances captured in the financial statement but rather on a narrative driven factors like scalability, ease of replication, growth potential, cross sell opportunities etc.
- Investors/users tend to focus on either numbers or the story without attempting to reach a middle ground. In both these cases, investors will fail to capture opportunities that could have been unlocked had they been willing to reach some middle ground between the two concepts.
- A robust intrinsic value calculation using financial statements data and an error-free model makes investing a more technical subject; in reality, emotions play a massive role in moving stocks higher or lower. Not accounting for this fact, therefore, could become an obstacle in consistently getting the valuation right.

PORTFOLIO MANAGEMENT 30Q|2PE

Q1. What are the activities in portfolio Management?

A. Following are the activities.

(a) Selection of securities.
(b) Construction of all Feasible Portfolios with the help of the selected securities.
(c) Deciding the weights/proportions of the different constituent securities in the portfolio so that it is an Optimal Portfolio for the concerned investor.

The activities are directed to achieve an Optimal Portfolio of investments commensurate with the risk appetite of the investor.

Q2. What are the objectives of Portfolio Management?

A. Any portfolio is created broadly for wealth creation but there are many other aspects / objectives for which a portfolio is created.

- Liquidity
- Long term fund requirements
- Short term fund requirements
- Create a retirement corpus
- Periodic returns / income
- Counter inflation
- Tax planning

Q3. What are the phases in construction of a portfolio?

A. There are 5 phases in portfolio Construction

- Security Analysis (Fundamental & Technical)

  - Fundamental Analysis – The factors that affect the company with respect to EPS, EBITDA, Dividend Payout, competition, market share, industry effect is considered under Fundamental Analysis. Under this intrinsic value of a security (i.e. true worth of a security based on its fundamentals) is compared with its current market price. Fundamental analysis helps one identify fundamentally strong companies whose shares are worthy to be included in the investor's portfolio wherein the investor buys underpriced security and sells over-priced security.
  - Technical Analysis - Share price movements are considered to follow trends and assumed to exhibit certain consistent patterns as per this analysis. Example: Patterns, trends, Indicators. Technical Analyst concentrates more on price movements and ignores the fundamentals of the shares.

- Portfolio Analysis

  Portfolio analysis is an examination of the components included in a mix of securities with the purpose of making decisions that are expected to achieve overall common objective. The major factors which affect this phase are:

  - Identify available securities
  - Define Investment Objectives
  - Identify Constraints
  - Understand Investor requirements
  - Clearly spell out the Risk appetite of the investor

- Portfolio Selection

  The objective of every rational investor is to maximise his returns and minimise the risk through diversification. The objective of this phase is to choose the portfolio with same risk but high return or same return with lower risk.

  - Considering all the constraints and requirements, many possible portfolios are created and analysed.
  - Risk (which depends on weights, correlation, standard deviation and covariance) and return (which depends on the weights and returns of individual securities) of each portfolio is determined.
  - The most efficient portfolio i.e. that which gives maximum return and least risk is selected.

- Portfolio Revision
  - It is the process of addition of new securities with better performance or deletion of under-performing securities or changing the weightage of securities invested to an existing portfolio
  - Constant monitoring of portfolio is essential for optimizing the selected portfolio. The investor has to ensure that the objectives related to return and risk are met with the portfolio selected through constant evaluation and revision.
  - Change in the resources availability or change in investment goals or change in market scenarios could be the reason for revision.

- Portfolio Evaluation
  - Evaluation of portfolio performance is the last stage of investment process. Portfolio evaluation is one of the most critical areas. Portfolio evaluation essentially comprises of two functions, portfolio performance measurement and portfolio performance evaluation.
  - Under performance measurement, the return earned on a portfolio during the holding period or investment period is measured. Performance evaluation, on the other hand, address such issues as whether the performance was superior or inferior, what factors affected the performance.

Q4. Compare and contrast Traditional and modern approaches to Portfolio Management

A. Traditional Approach

The selection of the portfolio depends upon the objectives set by the investors. Investor's expectations may be to have high returns with high risk or even low returns with low risk. Understanding the investor's objective and requirements is the basis for Traditional Approach. The steps followed under this approach are:

- Analysis of constraints
- Determination of objectives
- Selection of securities and assigning weights

The limitation of this approach is that it only considers the security performance independently but doesn't consider whether the securities match the portfolio objective. A best security is selected but not necessarily the best portfolio.

Modern Approach
Under modern approach also known as the Markowitz Approach the selection of securities is based on risk and return analysis.

"A good portfolio is more than a long list of good stocks and bonds. It is a balanced whole, providing the investor with protections and opportunities with respect to a wide range of contingencies." (Harry Markowitz)

Under this, risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk, as it assumes that risk is unavoidable to get higher return. Decisions taken under modern approach are:

- What is the security's impact on portfolio's risk and return?
- Is this the best portfolio with the set expected return and risk?
- Is this the best possible portfolio?

Q5. Explain what are systematic and unsystematic risks? (Important)

A. Systematic Risk: Risk that affects everyone in the market is called the systematic risk. It is inherent to the market, reflecting the impact of economic, geopolitical, and financial factors. Systematic risk, also known as "undiversifiable risk" or "non-diversifiable risk," affects the overall market, not just a particular stock or industry. Systematic risk cannot be diversified away by holding many securities. It is largely unpredictable and generally viewed as being difficult to avoid. It comprises of Inflation risk, Interest Rate Risk and Market Risk

Unsystematic Risk: Unsystematic risk is related to the specific industry, segment, or security. It can be mitigated through diversification, and so is also called the diversifiable

risk. Examples of unsystematic risks may include strikes, outcomes of legal proceedings, or natural disasters. It comprises of business risk, financial risk and operational risk

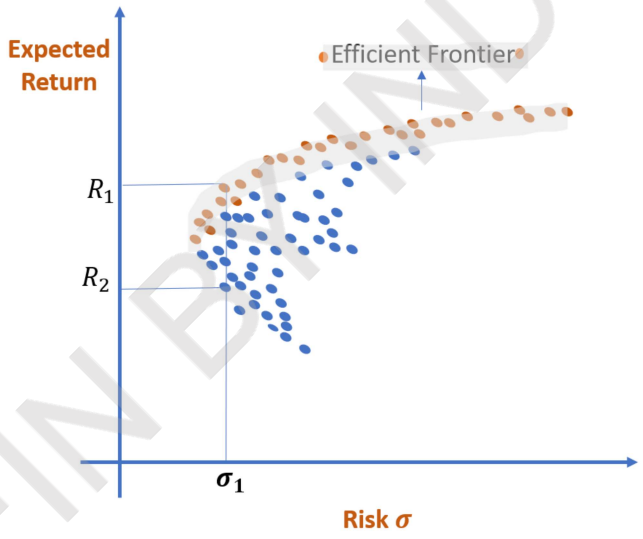
Differences between Systematic and Unsystematic Risk

Systematic Risk	Unsystematic Risk
Associated with the entire market.	Related to the specific industry, segment, or security,
Affects the entire market in varying degrees	Affects the stock of a specific company
Arises due to external factors	Arises due to the internal factors
Uncontrollable – manageable through hedging and asset allocation.	Controllable - using diversification

Q6. What is the efficient frontier? **(Important)**

A. Efficient frontier or portfolio frontier covers investment portfolios which occupy efficient parts of the risk-return spectrum. It is a graphical representation of portfolios that depict maximum returns for various levels of risk.

It is the set of portfolios which satisfy the condition that no other portfolio exists with a higher expected return with the same standard deviation of return (i.e., risk).



Efficient frontier contains efficient portfolios or optimal portfolios. Optimal portfolios that comprise the efficient frontier tend to have a higher degree of diversification than the sub-optimal ones, which are typically less diversified.

Efficient Frontier will help the investor choose and invest in the right portfolio.

Q7. What are the assumptions behind the Markowitz approach?

A. Assumptions of the Markowitz Approach

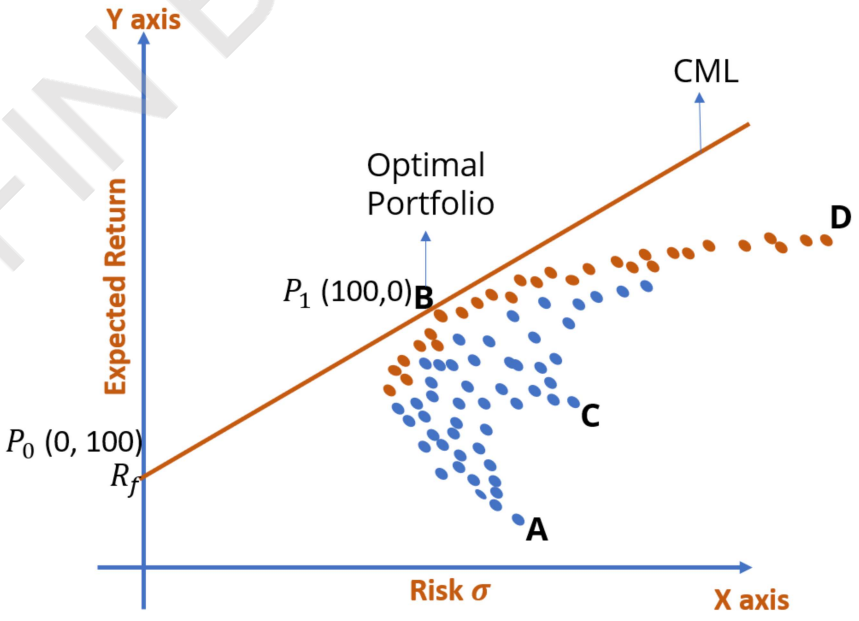
- Investor is rational, he expects higher return for given risk or lower risk for given return
- Investor is aware of the indifference curve and is able and willing to determine the expected return for the given risk or vice versa.
- Investors can visualize a probability distribution of rates of return i.e. able to determine the probable returns and the associated probable risks.
- Investors' risk estimates are proportional to the variance of return they perceive for a security or portfolio.
- Investors are risk-averse, i.e., they will tend to avoid unnecessary risks. For example, investors choose to invest in bank deposits that pay lower returns but guaranteed returns rather than investing in stocks that may promise high returns but carry a high risk of losses.
- Securities with various returns and risk and not correlated in the same manner, but they can be combined forming different Portfolios and few of them are efficient, forming an Efficient frontier.

Q8. What is Capital Market line?

A. The Capital Market Line is a graphical representation of all the portfolios that optimally combine risk and return.

CML is a theoretical concept that gives optimal combinations of a risk-free asset and the market portfolio. The CML is superior to Efficient Frontier in the sense that it combines the risky assets with the risk-free asset.

The efficient frontier represents combinations of risky assets. If we draw a line from the risk-free rate of return, which is tangential to the efficient frontier, we get the Capital Market Line. The point of tangency is the most efficient portfolio.



Rf is the risk-free rate, it is the rate of return of an investment with zero risk i.e. σ=0

Moving up the CML will increase the risk of the portfolio and moving down will decrease the risk. Subsequently, the return expectation will also increase or decrease, respectively.

Preferred investment strategies can be plotted along line □(→┬(R_f B)), representing alternative combinations of risk and return obtainable by combining the market portfolio, either with borrowing or lending. The portfolios with the best trade-off between expected returns and variance (risk) lie on this line. The tangency point is the optimal portfolio of risky assets, known as the market portfolio.

This line is known as the Capital Market Line (CML).

Portfolios lying on the line from Rf to B shall be lending portfolios as they will involve some investment in risk-free securities and some investment in market portfolio.

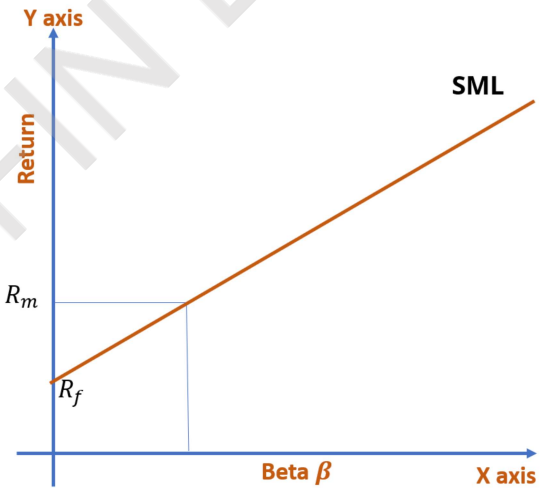
Portfolios beyond B on CML will be borrowing portfolios as they will be additional investments in the market portfolio by borrowing some amount.

Q9. Explain what is CAPM or Explain the concept of SML? **(Important)**

A. The Capital Asset Pricing Model (CAPM) attempts to quantify the relationship between the beta of an asset and its corresponding expected return. CAPM is widely used for determining price for risky securities and generating expected returns for assets given the risk of those assets and cost of capital.

As the unsystematic risk can be diversified by building a portfolio, the relevant risk for determining the prices of securities is the non-diversifiable component of the total risk. As mentioned earlier, it can be measured by using Beta (β).

A graphical representation of CAPM is the Security Market Line, (SML). This line indicates the rate of return required to compensate at a given level of risk. Plotting required return on Y axis and Beta on the X-axis we get an upward sloping line which is given by (Rm – Rf), the risk premium.



The higher the Beta value of a security, higher would be the risk premium relative to the market. This upward sloping line is called the Security Market Line. It measures the relationship between systematic risk and return.

The return on a security is taken as a dependent variable and the return on market is taken as independent variable then Rj = Rf+ β (Rm- Rf). The beta parameter β in this William Sharpe model represents the slope of the regression relationship and measures the sensitivity or responsiveness of the security returns to the general market returns.

The CAPM distinguishes between risk of holding a single asset and holding a portfolio of assets. There is a trade-off between risk and return. The portfolio beta is merely the weighted average of the betas of individual securities included in the portfolio.

Risk and return relationship in this model stipulate higher return for higher level of risk and vice versa. However, there may be exception to this general rule where markets are not efficient.

Q10. What is the difference between CML & SML? **(Important)**

A. Security Market Line – shows the relationship between the required return on individual security as a function of systematic and non-diversifiable risk.
Capital Market Line – shows the relationship between the expected return on the efficient portfolio and their total risk.

CML is a special case of SML – *If the security has the return and risk same as market portfolio then SML and CML will be same.*

$$Return\ using\ SML, \quad E(R) = R_f + \sigma_{im}.\left(\frac{R_m - R_f}{{\sigma_m}^2}\right)$$

$$= R_f + \frac{\sigma_{im}}{\sigma_m}.\left(\frac{R_m - R_f}{\sigma_m}\right)$$

If return and risk of security = return and risk of market, then

$$\frac{\sigma_{im}}{\sigma_m} = \frac{{\sigma_i}^2}{\sigma_i} = \sigma_i$$

Thus, $R_f + \frac{\sigma_{im}}{\sigma_m}.\left(\frac{R_m - R_f}{\sigma_m}\right) = R_f + \sigma_i.\left(\frac{R_m - R_f}{\sigma_m}\right) = Return\ using\ CML$

The Capital Market Line (CML) represents portfolios that optimally combine risk and return.

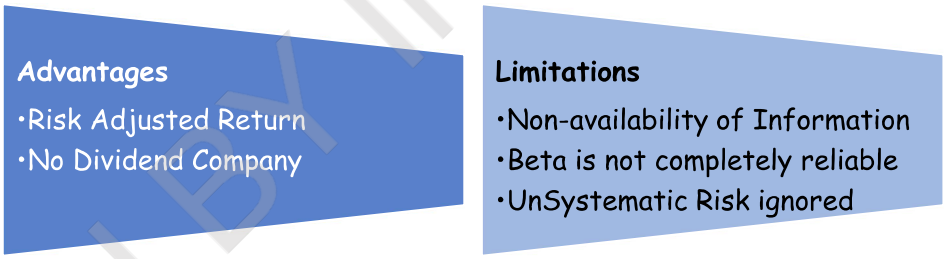
Q11. What are the key assumptions behind CAPM? **(Important)**

A.

	Assumption	Particulars
1	Rational Investors	Investors desire higher return for any acceptable level of risk or the lowest risk for any desired level of return.
2	Efficient Capital Markets	Financial securities and capital assets in the market are bought and sold with full information of risk and return available to all participants.
3	No Transaction Costs	Securities can be exchanged without payment of brokerage, commissions or taxes and without any transaction cost.
4	Divisible Assets	CAPM assumes that all assets are divisible and liquid assets.
5	No Sudden Risks	Securities or capital assets face no bankruptcy or insolvency.
6	Easy borrowings	Investors are able to borrow freely at a risk less rate of interest i.e. borrowings can fetch equal return by investing in safe Government securities.

Q 12. What are advantages and limitations of CAPM? (Important)

A.



Q13. What is Arbitrage Pricing Theory?

A. Arbitrage pricing theory (APT) is used as an alternative to Capital Assets Pricing Model (CAPM) & has been developed by economist Stephen Ross in 1976.

- While the CAPM formula helps to calculate the market's expected return, APT uses the risky asset's expected return and the risk premium of several macroeconomic factors that capture systematic risk.
- Under APT, an asset's returns can be predicted using the linear relationship between the asset's expected return and several macroeconomic factors.
- APT is a useful tool for analyzing portfolios to identify securities that may be temporarily mispriced. This model assumes that markets sometimes misprice securities, before the market eventually corrects and securities move back to fair value, unlike the CAPM, which assume markets are perfectly efficient.

- The CAPM only considers one factor—market risk—while the APT formula has multiple factors. APT factors involve systematic risk that cannot be reduced by the diversification.
- The number of macro factors considered depends on the investor. Some of such macroeconomic factors include unexpected changes in inflation, gross national product (GNP), gross domestic product (GDP), commodities prices, market indices, and exchange rates.
- The stocks' returns would be calculated by using the APT in the following manner:
- Calculate the risk premium for each of these risk factors. Risk premium is compensation over and above risk-free rate of return that an investor expects/ requires for bearing that risk represented by λ_1, λ_2.....λ_n
- Risk free rate of return is added to such premium.

Q14. What are the differences between Sharpe and Treynor Ratios

	Treynor Ratio	Sharpe Ratio
Risk	Incorporates only systematic risk as unsystematic risk can be diversified	Incorporates total risk (systematic as well as unsystematic)
Formula	Uses Systematic Risk (β) for a security or a portfolio of securities.	Uses a portfolio's standard deviation (σ)
Use	More suitable for evaluation diversified equity funds, as the element of unsystematic risk would be very negligible	Better suitable for evaluating the funds which are sector specific
Computation	$T = \frac{R_i - R_f}{\beta_i}$	$S = \frac{R_i - R_f}{\sigma_i}$

Q15. Elaborate on Active Portfolio Strategy

A. Fund managers of "active" funds spend a great deal of time on researching individual companies, gathering extensive data about financial performance, business strategies and management characteristics.

The portfolio manager under this strategy tries to understand the factors that move the assets and uses the market inefficiencies by buying undervalued securities or by short selling overvalued securities

Performance of an actively managed investment portfolio relies on the proficiency of the portfolio manager and research staff

Q 16. What are principles of Active Strategy?

A.

- Market Timing - Market timing refers to an investing strategy through which a market participant makes buying or selling decisions by predicting the price movements of a financial asset in the future.

Aim is to outperform the market by taking a long position (buying) at market bottoms and a short position (selling) at market tops. A variety of tools are employed for market timing analysis namely

- business cycle analysis,
- fundamental analysis,
- technical analysis, etc

The forecast for the general market movement derived with the help of one or more of the tools is also affected by the subjective judgment of the investors.

The costs related to the active management are higher in comparison to passive management as they result in short-term capital gains due to frequent trading & have an unfavorable income tax impact.

- Sector Rotation - The investing strategy of sector rotation is based on the principle that some industries will benefit more during different periods of the economic cycle than others. To use sector rotation to your advantage, you need to deeply understand economics and have a good grasp of where the economy is in the business cycle.

  Mutual funds and managers of large portfolios practice sector rotation to attempt to outperform the stock market and reduce risk as it provides some shielding against the economic ups and downs. If done correctly, it can reduce risk and increase profits.

  With respect to stocks, stocks of specific sectors like pharma, health care, infrastructure, banking, technology, fin-tech, etc depending on the economic situation are chosen. During buoyant markets, few stocks like banking and engineering do well and when economy is bad fund managers choose the defensive stocks like IT and FMCG.
  With respect to bond portfolio sector rotation is done as shift in the composition of the bond portfolio in terms of quality as reflected in credit rating, coupon rate, term of maturity etc
  Regularly evaluation of economy and assessing and rotating out of each stock and rotate into more favorable stocks is time-consuming and involves costs.

- Security Selection – Under this, within a sector, security to be invested is chosen. Security selection involves a search for underpriced securities.

  Fundamental and technical analysis are used for active stock selection to identify stocks which seems to promise superior return and concentrate the stock components of portfolio on them.

  As far as bonds are concerned security selection calls for choosing bonds which offer the highest YTM (yields to maturity) and at a given level of risk.

- Usage of Specialised Investment Concept – Under these approaches to achieve superior returns a specialized concept or philosophy needs to be employed especially for investment in stocks.

Every portfolio manager may have expertise in specific stocks or sectors or price movements etc. and this expertise is used to manage the portfolios.

This concept ensures portfolio manager's efforts are in sync with his/ her ability and talent, and through mastering this constantly they help portfolio grow.

This concept is not relevant if

- Sector is not at all performing or
- Manager's skills have become irrelevant or
- Size of the sector have become negligible etc.

Q 17. What is Passive Portfolio Strategy?

A. Passive portfolio management involves choosing a group of investments i.e diversified portfolio that track a broad stock market index. The goal is to mirror the returns of the market (or a specific portion of it) over time. It is assumed that the markets are efficient.

Passive strategy investments are called index funds. An Index fund is a mutual fund scheme that invests in the securities of the target Index in the same proportion or weightage.

For example: A Nifty index fund has all its money invested in the Nifty fifty companies, held in the same weights as the index.
They typically invest in large cap index funds
The broad guidelines followed under this strategy are

(a) Create a well-diversified portfolio at a predetermined level of risk.
(b) Hold the portfolio relatively unchanged over time.

Q18. What are the factors considered in Bond Investments?

A.

- Yield to maturity: rate of return earned by the investor, if invested in the fixed income avenues and held till its maturity.
- Risk: To assess such risk on a bond, one must look at the credit rating of the bond. If no credit rating is available relevant financial ratios of the firm must be examined such as debt equity, interest coverage, earning power etc. and the general prospect of the industry to which the firm belongs must be assessed.
- Taxability: Tax shields available for fixed income avenues should be considered.
- Liquidity: A liquid bond can be converted wholly or substantially into cash at short notice.

Q19. How is stock selection done in markets that have various levels of efficiency? (Past Exams)

A. Technical analysis where in price behaviour and volume data are considered.

Fundamental analysis considers various factors like earning level, growth prospects and risk exposure to establish intrinsic value which is compared with market price to make buy or sell decision.

Random selection analysis assumes that the market is efficient, and security is properly priced.

Levels of Market Efficiency and Approach to Security Selection – Efficiency of markets has an impact on the approach to be taken for selection of stock

Approach / Levels of Efficiency	Technical Analysis	Fundamental Analysis	Random Selection
1) Inefficiency	Best	Poor	Poor
2) Weak form efficiency	Poor	Best	Poor
3) Semi-strong efficiency	Poor	Good	Fair
4) Strong-form efficiency	Poor	Fair	Best

Q.20 What are various Portfolio Revision and Rebalancing Strategies? **(Important) (Past Exam)**

A. Portfolio manager must choose the various assets to invest in forming part of the portfolio and he/ she also has to choose the weightage of each of such assets. Amongst the asset classes, the manager must decide what kind of and which specific assets to be invested in.

Their Performance must be periodically reviewed and decisions of retain /sell /buy must be taken. This whole process followed by the portfolio manager based on the broad investment structure / policy is portfolio revision and rebalancing.

There are three basic policies with respect to portfolio rebalancing: buy and hold policy, constant mix policy, and portfolio insurance policy.

Buy & Hold Policy

There is no balancing required under this policy and therefore investor maintains an exposure to stocks i.e. the initial portfolio is left undisturbed. Irrespective of what happens to relative values, no rebalancing is done.

This is most suitable when

- Investor has not wealth restrictions
- Investor has high risk appetite

Under this strategy investors set a limit (floor) below which he does not wish the value of portfolio should go and that is the investment in bonds. Thus, the portfolio value will be minimum of bond value even if stock price goes down to zero.

Constant Mix Policy

The constant mix policy calls for maintaining the proportions of stocks and bonds in line with their target value based on a threshold i.e., investor maintains an exposure to stocks at a constant percentage of total portfolio.

Under this policy, periodic rebalancing is done to required (desired) proportion by purchasing and selling stocks as and when their prices go down and up respectively.

For example- An investor decided his portfolio shall be "equity: bond" of 50:50 and the threshold set is – upward or downward of 10% in share prices he/she will rebalance. This policy is most suited when the market prices are rising and falling but not in a completely down trend market. It follows "sell on highs and buy on dips" strategy

Constant Proportion Insurance Policy (CPPI)

Constant proportion portfolio insurance, also known as CPPI, is a type of insurance coverage that protects an investor in the event of losses that majorly affect the value of investment portfolio. The coverage depends on the nature of the investments that included in the portfolio, considering the degree of risk associated with such investment types.

The basic idea under this portfolio is to ensure that the portfolio value does not fall below a floor level. CPPI uses two classes of assets

- Risky assets with high volatility – mutual funds, stocks, equities.
- Risk less assets i.e. non-fluctuating assets - cash assets, Treasury Bills, Bonds etc

This strategy performs well especially in bull market as the value of shares is purchased as cushion increases. In contrast in bearish market losses are avoided by sale of shares. It follows "Buy on high and Sell on lows" strategy wherein after an asset's price drops from a higher level, investors sell and when asset moves from dip to higher level asset it is bought.

As per CPPI "sell the shares as their prices fall and buy them as their prices rise". This policy is contrary to the Constant Mix Policy.

Equation used to determine equity allocation:

Target Investment in Shares = Multiplier x (Portfolio Value – Floor Value)

$S = M \times (P - B)$

This portfolio insurance helps develop an asset allocation plan that covers the investor in case a given asset slips below the minimum specified amount. As a result, the insurance limits the amount of loss for an investor with the covered assets.

Q21. Compare all three portfolio rebalancing strategies and how they perform under various market conditions? (**Important)**

	Buy or Hold	Constant Mix	CPPI
Strategy	No Action	Buy on dips & Sell on high	Buy on high & Sell on dips
Formulae	-	Maintain Constant Ratio rebalancing at pre-decided threshold	Equity = M(P-F)
Most suitable		Flat by volatile market	Up movement markets
Curve	Flat	Concave	Convex
Market effect: **Flat** **Up** **Down**	 Between CM & CPPI Ok Poor	 Excellent Poor Not so bad	 Very bad Excellent Good

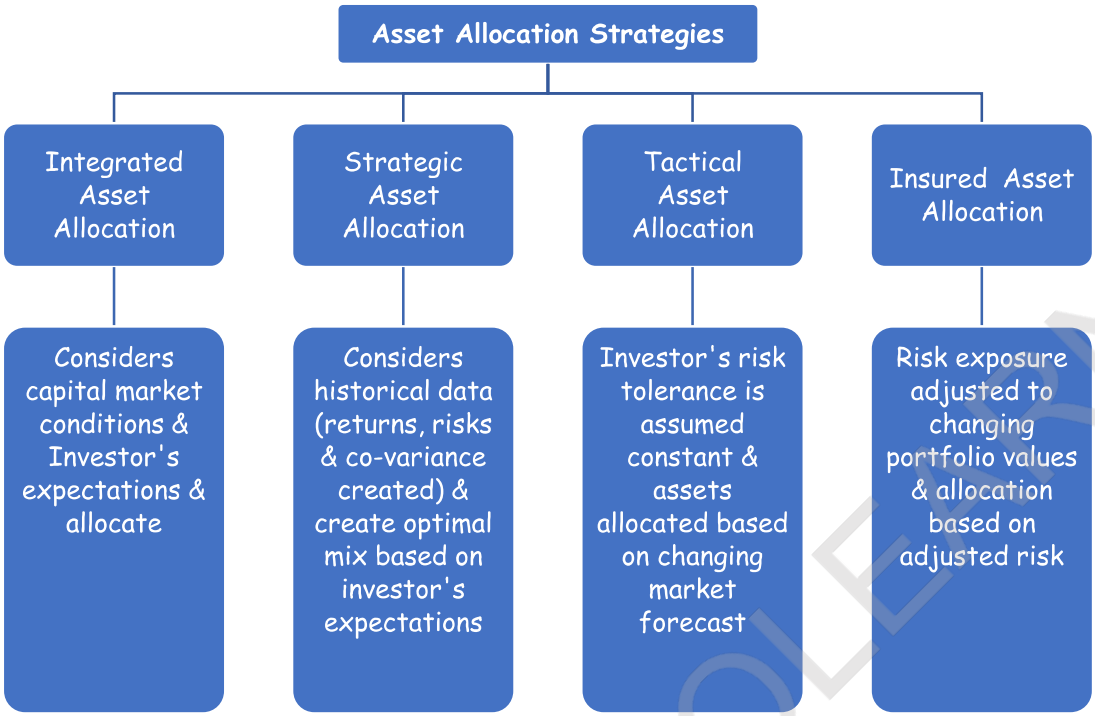
Q 22. Elaborate the various asset allocation strategies

A. Portfolios don't just have equity & bonds but many other assets. Ascertaining an appropriate asset mix of stocks, bonds, cash, currencies, insurance, gold and real estate for a portfolio is a dynamic process.

Asset allocation is a very important part of creating and balancing portfolio. If done well this leads to good overall returns—even more than choosing individual stocks.

The asset mix in your portfolio should reflect your goals at any point in time. Whether an investor chooses a precise asset allocation strategy, or a combination of different strategies depends on that investor's goals, age, market expectations, and risk tolerance.

There are broadly four categories of asset allocation as given below:



Q 23. How is a Fixed Income portfolio Created?

A. Fixed income portfolio process also involves five steps

1. Setting up objective
2. Drafting investment policy
3. Selection of Portfolio Strategy - Active and Passive
4. Selection of assets – based on credit rating, company's environmental sustainability and governance, tenure, etc.
5. Evaluation of performance with benchmark

Q 24. Elaborate on Active and Passive Strategies for a Fixed income portfolio.

A. Passive Strategy is based on the premise that securities are fairly priced commensurate with the level of risk.

Common strategies applied by passive investors of fixed income portfolios are as follows:

(i) Buy and Hold Strategy: investor continues with initial selection. Sometimes the investor may set the duration of portfolio equal to benchmarked index with an objective to control the interest rate risk.

(ii) Indexation Strategy: This strategy involves replication of a predetermined benchmark bond index as closely as possible.

(iii) Immunization: Under this portfolio duration is adjusted according to investor's time horizon. It's a hybrid strategy especially applied for pension funds. Pension funds pay fixed amount to retires people in the form of annuities, so any downward

movement in interest may affect fund's ability to meet their liability timely. By building an immunized portfolio the interest rate risk can be avoided.

(iv) Matching Cash Flows: This approach involves buying of Zero-Coupon Bonds such that intermediate fluctuations in interest rates will not affect cashflow i.e to meet the promised payment out of the proceeds realized.

Active Strategy is usually adopted to outperform the market. Following are some of the active strategies:

(i) Forecasting Returns and Interest Rates – Return is estimated based on change in interest rates. To forecast the expected interest rates one has to consider the following:

- Inflation
- RBI Monetary Policy
- Fiscal Policy
- Past Trends
- Multi Factor Analysis
- Horizon Analysis

Interest rate and bond values are inversely related, thus

- if portfolio manager expects a fall in interest rate of bonds – he/she should buy bonds with longer balance maturity.
- if portfolio manager expects a rise in interest rate of bonds – he/she should sell bonds with longer balance maturity.

Strategies based on short term yields:

- Bullet Strategy – Investor concentrates on investment in one particular bond based on the requirement of a maturity date. Bonds are held till they mature.
- Barbell Strategy – investing equal amount in short-term and long-term bonds.
- Ladder Strategy - investment of equal amount in bonds with different maturity periods.

(ii) Bond Swaps: This strategy involves regularly monitoring bond prices to identify mispricing and try to exploit this situation. Some of the techniques are as follows:

- Yield Pickup Swap - This strategy involves switching from a lower yield bond to a higher yield bond of almost identical quantity and maturity, whereby the portfolio manager may suffer capital loss.

- Substitution Swap - This involves swapping with similar type of bonds in terms of coupon rate, maturity period, credit rating, liquidity, and call provision but with different prices.
- International Spread Swap – This swap is based on the belief that "yield spread between two sectors is temporarily out of line" and thus the portfolio manager tries to take benefit of this mismatch.
- Tax Swap - This swap aims at taking tax advantage. Under this
  - existing bond whose price decreased is sold at capital loss and
  - capital loss is set off against capital gain in other securities
  - another security which has features like that of disposed one is bought.

(iii) Interest Rate Swap - An interest rate swap is a contract between two parties to exchange all future interest rate payments forthcoming from a bond or loan

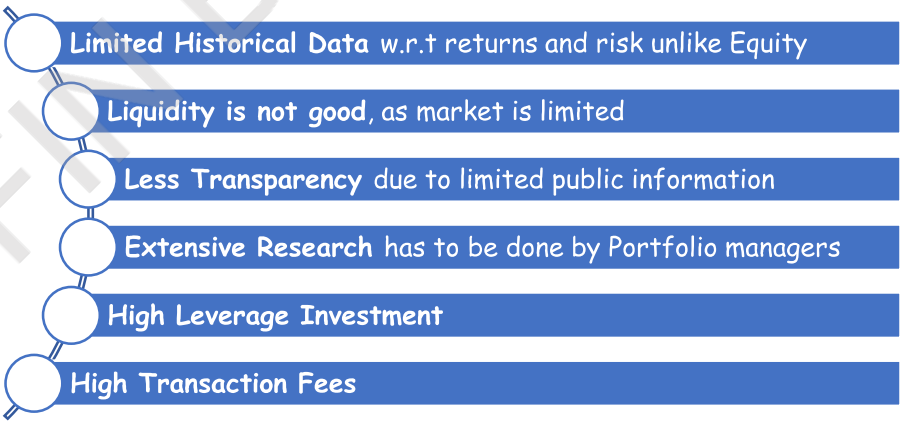
Q25. What are various Alternative Investments beyond Equity & Debt? **(Important)**

A.

- Mutual Funds,
- Private Equity (PE),
- Venture Capital (VC) funds,
- Real Estate,
- Mezzanine Funds,
- Commodities,
- Distressed securities

Alternative funds are most often used for portfolio diversification. Alternative funds typically have higher market risk, higher expenses, and higher minimum initial investments.

Common features of Alternative Investment are as follows:



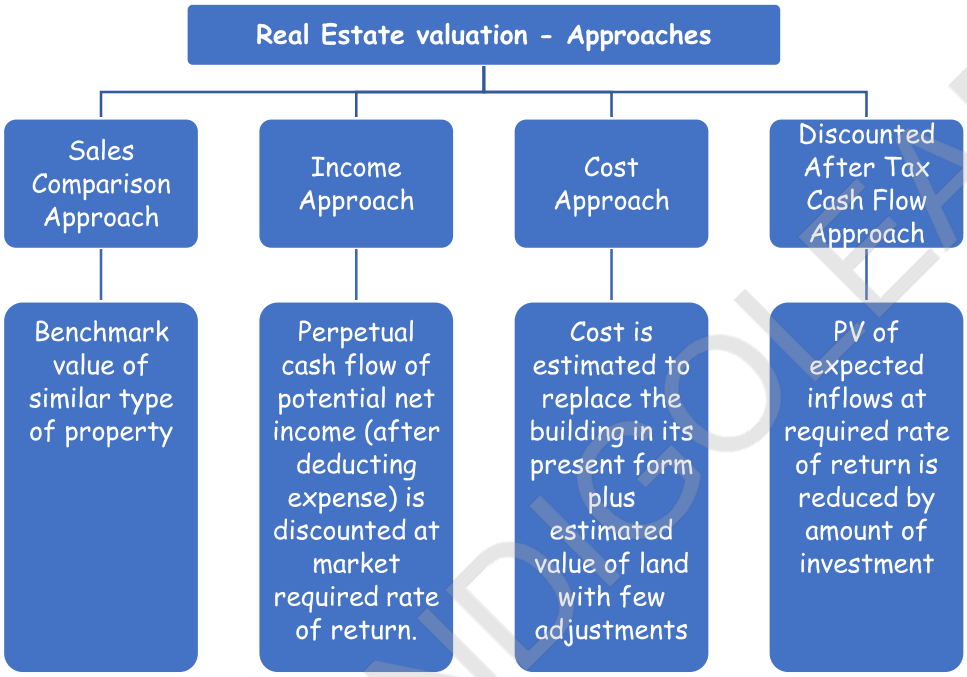
Q 26. Is Real Estate a good Investment opportunity? **(Important)**

A. Real estate Assets consists of land, buildings, offices, warehouses, shops etc. It is a tangible form of assets. Some special features of real-estate are as follows:

- Illiquid
- Inefficient market i.e., no free information
- High transaction & procedural costs
- Clear comparison not possible
- No organized market

Q 27. How are Real Estate Investments Valued?

A.



Q28. What are distressed securities, and should one invest in them?

A. Distressed securities are securities of a company under financial distress or bankruptcy. Distressed securities are sold at huge discount to their intrinsic value i.e., at very low price due to the significant risk involved in holding them.

Investors buy these so that they can earn arbitrage profit by buying bond and shorting equity i.e., the investor shall get benefit from the interest on bond more than the dividend lost on shorting the equity. Investors with big risk appetite and great aptitude for the market invest in distressed securities

Risks associated with dealing in distressed securities are as follows:

- Liquidity Risk
- Human Judgement Risk
- Event Risk
- Market Risk

Q29. What is distressed security arbitrage?

A. Long Debt + Short Equity of a company in bankruptcy proceedings

If Company Survives => Interest Income greater than Dividend outflow on Equities Shorted
If Company position deteriorates => Profit on Shorting Equity > Loss on Debt Instrument

Q30. What are various modes of Investment in Gold and highlight their features?

A. Following are various modes:

Sovereign Gold Bonds (SGB) – Best Option, Interest + Electronic + No Capital Gains
Physical Gold – Safety, Cost of storage locker
Gold ETF – Like Mutual Funds with continuous trading in bullion markets
E Gold – Electronic Gold Representing physical bullion. Offered by NSEL

SECURITIZATION 14Q|10PE

Q1. Define Securitization and explain its features **(Important) (Past Exam)**

A. Securitization is "The process of securitization typically involves the creation of pool of assets from the illiquid financial assets, such as receivables or loans which are marketable."

Features of Securitization

(i) Creation of Financial Instruments – Securitization process can be viewed as process of creation of additional financial products or securities in market backed by collaterals.

(ii) Bundling and Unbundling – When all the assets are combined in one pool it is bundling and when these are broken into instruments of fixed denomination it is unbundling.

(iii) Tool of Risk Management – In case assets are securitized on a non-recourse basis, then securitization process acts as risk management tool as the risk of default is shifted.

(iv) Structured Finance – In this process, financial instruments are tailored / structured to meet the risk return trade of profile of investor, and hence, these securitized instruments are considered as best examples of structured finance.

(v) Tranching – Portfolio of different receivable or loan or asset are split into several parts based on risk and return they carry called 'Tranche'. Each Tranche carries a different level of risk and return.

(vi) Homogeneity – Under each tranche the securities issued are of homogenous nature and even meant for small investors who can afford to invest in small amounts.

Q2. What are the benefits of Securitization? **(Important) (Past Exam)**

A. Benefits to Originator:

(i) Off-Balance Sheet financing leads to improved liquidity position.
(ii) Servicing of loan is transferred to SPV results in more specialization in main business.
(iii) Helps to improve financial ratios. (i.e., Capital –To-Weighted Asset Ratio)
(iv) Reduced borrowing Cost.

Benefits to Investor:

(i) Diversification of portfolio results in reduction of risk.
(ii) Helps to meet regulatory requirement of investment of fund in specific industries.
(iii) In case of recourse arrangement if there is any default by any third party, then originator shall make good some amount for compensation of such loss on account of default.

Q3. Who are the participants in the securitization process and explain their roles? **(Important) (Past Exam)**

A. Primary Participants

Originator

(i) Initiator of deal also called as Securitizer.
(ii) It receives the funds generated by selling the assets.
(iii) Transfers both legal as well as beneficial interest to the Special Purpose Vehicle

SPV

(i) SPV executes the deal.
(ii) It holds the legal title of assets transferred from Originator.
(iii) It holds the key position in the overall process of securitization.
(iv) It issues the securities (called Asset Based Securities or Mortgage Based Securities) to the investors.

Investors

(i) These are the buyers of securitized papers.
(ii) The money invested by them is received in the form of interest and principal as per the terms agreed.

Secondary participants

Obligors

(i) They are the main source of the whole securitization process.
(ii) They owe money to the firm and are assets in the Balance Sheet of Originator.
(iii) The amount due from the obligor is transferred to SPV.

Rating Agency

(i) The assets must be assessed in terms of its credit quality and credit support available as securitization is based on the pool of assets rather than the originators.
(ii) It assesses the following:
- Strength of the Cash Flow.
- Mechanism to ensure timely payment of interest and principal repayment.
- Credit quality of securities.
- Liquidity support.
- Strength of legal framework.

(iii) Plays a vital role

RPA

(i) Receiving and Paying agent is also called as Servicer or Administrator.
(ii) It collects the payment due from obligor(s) and passes it to SPV.
(iii) These follow up with defaulting borrower and if required initiate appropriate legal action.
(iv) The originator or its affiliates acts as their servicer.

Agent / Trustee

They are appointed to oversee that all parties who acquires the securities, to perform the deal in the true spirit of terms of agreement.

Credit Enhancer

(i) Investors in securitized instruments require additional comfort in the form of credit enhancement for credit rating of issued securities, which increases the marketability of the securities.

(ii) Credit Enhancement is provided by Originator in the form of over collateralization or cash collateral, or a third party say a bank it in form of letter of credit or surety bond.

Structurer

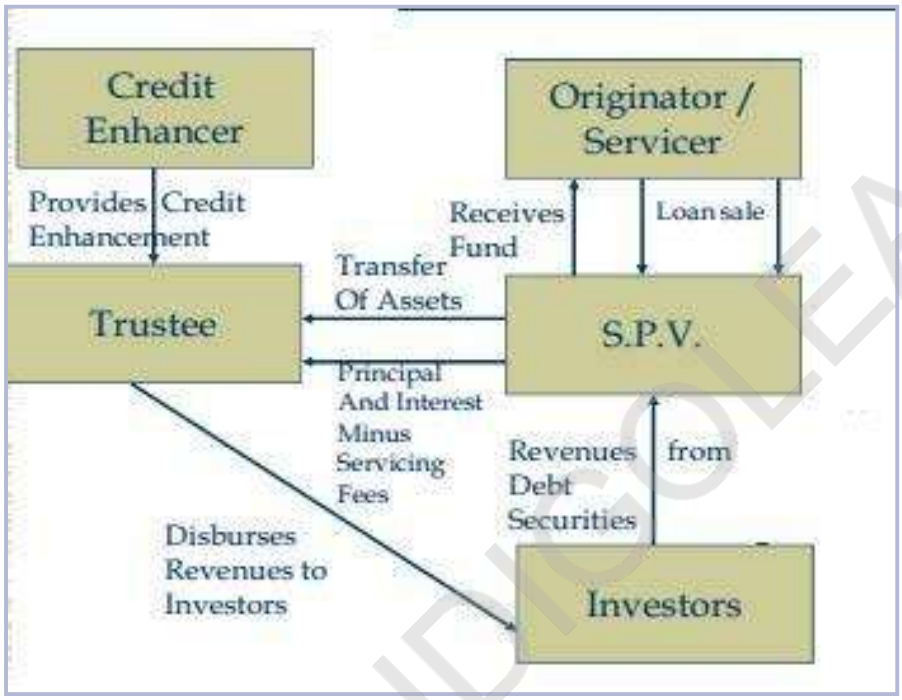
(i) These are the investment bankers also called arranger of the deal.
(ii) Structurer brings together the originator, investors, credit enhancers and other parties to the deal of securitization.
(iii) It ensures that deal meets all legal, regulatory, accounting and tax laws requirements.

Q4. Explain the mechanism of securitization **(Important) (Past Exam)**

A. Mechanism of Securitization

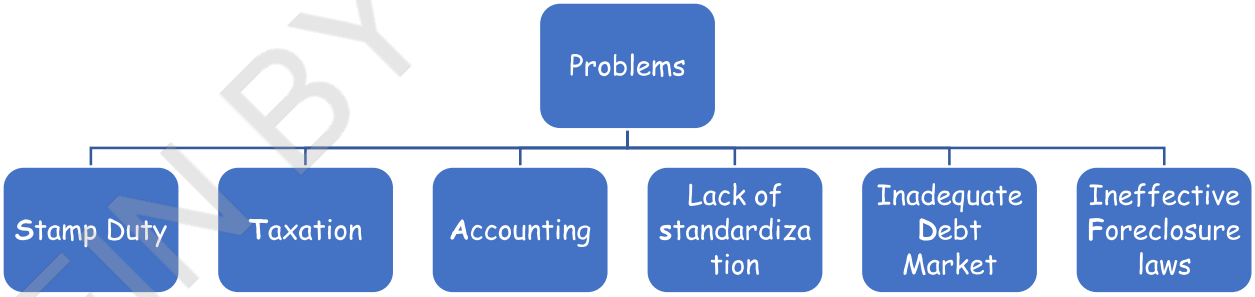
- Step1: Creation of Pool of Assets - Securitization begins with creation of pool of assets by segregation of assets backed by similar type of mortgages in terms of interest rate, risk, maturity, and concentration units.
- Step 2: Transfer of assets pooled to an SPV - These assets are transferred by the originator to an SPV created solely for this purpose.
- Step 3: Sale of Securitized Papers - SPV designs the instruments based on nature of interest, risk, tenure etc. of the pool of assets. These instruments can be Pass Through Securities or Pay Through Certificates.
- Step 4: Administration of assets - Administration of assets is subcontracted back to originator which collects principal and interest from underlying assets and transfers it to SPV, which works as a conduit.

- Step 5: Recourse to Originator- Performance of securitized papers depends on the performance of underlying assets. Securitized papers go back to originator from SPV.
- Step 6: Repayment of funds: SPV will repay the funds in form of interest and principal that arises from the assets pooled.
- Step 7: Credit rating to Instruments: Credit rating can be done to assess the risk of the issuer before the sale of securitized instruments.



Q5. What are the problems faced in securitization? **(Important) (Past Exam)**

A. STASDF



Q6. What are Pass through Certificates and Pay Through Securities? Explain their differences. **(Important) (Past Exam)**

A. **Pass Through Certificates (PTCs)**

- The securities represent direct claim of the investors on all the assets that has been securitized through SPV.
- Since all cash flows are transferred the investors carry proportional beneficial interest in the asset held in the trust by SPV.
- It should be noted that since it is a direct route any prepayment of principal is also proportionately distributed among the securities holders.

- On completion of securitization by the final payment of assets, all the securities are terminated simultaneously.

Pay Through Security (PTSs)

- To overcome the limitation of all cash flows being passed to the performance as in PTCs, single mature there is another structure i.e. Pay Through Securities
- SPV issues Pay through securities which are backed by debt securities that are backed by the assets – this creates desynchronization of servicing of securities issued from cash flows generated from the asset.
- This also permits the SPV to reinvest surplus funds for short term as per their requirement.
- Cash flows resulting from early retirement of receivables and cash can be used for short term yield.

Q7. What are stripped securities? Explain **(Important) (Past Exam)**

A. Stripped Securities are highly volatile securities and are created by dividing the cash flows associated with underlying securities into two or more new securities.
Those two securities are as follows:

(i) Interest Only (IO) Securities
(ii) Principal Only (PO) Securities

The holder of IO securities receives only interest while PO security holder receives only principal.

Interest rate in market	Value of IO's securities	Value of PO's securities
Rises	Rises	Falls (Borrower prefers to postpone the payment on cheaper loans)
Falls	Falls	Rises (Borrower tends to repay the loans as they prefer to borrow fresh loan at lower rate of interest)

Q8. How are Securitized instruments priced? **(Important) (Past Exam)**

A. Pricing should be acceptable to both originators as well as to the investors.

From Originator's Angle

The instruments can be priced at a rate at which originator has to incur an outflow and if that outflow can be amortized over a period of time by investing the amount raised through securitization.

From Investor's Angle

- The price can be determined by discounting best estimate of expected future cash flows using rate of yield to maturity of a comparable security with respect to credit quality and average life of the securities.
- The yield can be estimated by referring the yield curve available for marketable securities, upon adjustments on account of spread points, because of credit quality of the securitized instruments.

Q9. What are Various Risks in Securitization?

A. Risks can be categorised as below:

a. Credit risk or Counterparty risk: It is the prime risk wherein investors are prone to the risk of bankruptcy and non-performance of the servicer.

b. Legal risks: There is an absence of conclusive judicial precedent or explicit statutory provisions in India on securitization transactions and therefore dispute over the legal ownership of the assets is likely to result in uncertainty regarding investor pay-outs from the pool cash flow.

c. Market risks: Market risks represent risks external to the transaction and include market-related factors that impact the performance of the transaction. Some of these risks are as follows:

i. Macroeconomic risks: The performance of the underlying loan contracts depends on macroeconomic factors, such as industry downturns or adverse price movements of the underlying assets. For example, in the transportation industry a continuous decline in industrial production may lead to a downtrend in the use of services of the Commercial Vehicles (CVs) adversely impacting the cash flow of CVs operators. This in turn, may impact repayments on CV loans. Similarly, a fall in the prices of the CVs may increase chances of default as the borrower may wilfully default the loan and let the finance company repossess and sell the underlying vehicle instead of retaining it and continuing to pay instalments on time.

ii. Prepayment risks: A change in the market interest rate represents a difficult situation for investors because it is a combination of prepayment risk and volatile interest rates. With a reduction in interest rates generally prepayment of retail loans increases, resulting in reinvestment risk for investors because investors may receive their monies ahead of schedule and may not be able to reinvest the amount at the same yield.

iii. Interest rate risks: This risk is prominent where the loans in the pool are based on a floating rate and investor pay-outs are based on a fixed rate or vice versa. It results in an interest rate mismatch and can lead to a situation where the pool cash inflow, even at 100% collection efficiency, is not sufficient to meet investor pay-outs. Interest rate swaps can be used to hedge this type of risk to some extent

Q10. What is Blockchain? **(Important)**

A. Blockchain, (Distributed Ledger Technology - DLT) is a shared, peer-to- peer, and decentralized open ledger of transactions system with no third parties in between.

This ledger database has every entry as permanent as it is an append-only database which cannot be changed or altered. All transactions are irreversible with any change in the transaction being recorded as a new transaction.

The decentralised network refers to the network which is not controlled by any bank, corporation, or government. A block chain generally uses a chain of blocks, with each block representing the digital information stored in public database.

Blockchain creates a decentralized distribution chain that gives everyone access to the ledger at the same time. No one is locked out awaiting changes from another party, while all modifications to the ledger are recorded in real-time, making changes completely transparent.

Eg of a Block Chain Transaction:

- A transaction like sending money to someone is initiated.
- Transaction is broadcasted via the network.
- The network validates the transaction using cryptography. The transaction is represented online as a block.
- Block is added to the existing block chain.
- Transaction is complete.

Q11. What are applications of Blockchain? **(Important)**

A. Following are the uses of Blockchain across various industries:
   a. Financial Services: Blockchain can be used to provide an automated trade lifecycle in terms of the transaction log of any transaction of asset or property - whether physical or digital such as laptops, smartphones, automobiles, real estate, etc. from one person to another
   b. Healthcare: Secure sharing of data by increasing the privacy, security, and interoperability of the data between doctors, patients & service providers by eliminating the interference of third party and avoiding the overhead costs.
   c. Government: Blockchain improves the transparency and provides a better way to monitor and audit the transactions in land registration, vehicle registration and management, e-voting systems etc.
   d. Travel Industry: Blockchain can be applied in money transactions and in storing important documents like passports/other identification cards, reservations and managing travel insurance, loyalty, and rewards.
   e. Economic Forecasts: Blockchain makes possible the financial and economic forecasts based on decentralized prediction markets, decentralized voting, and stock trading, thus enabling the organizations to plan and shape their businesses.

Q12. What are Risks of Blockchain? **(Important Past Exam)**

A. Following are the risks of Blockchain.

a. members of a particular blockchain may have different risk appetite/risk tolerances that may further lead to conflict when monitoring controls are designed for a blockchain. There may be questions about who is responsible for managing risks if no one party is in-charge, and how proper accountability is to be achieved in a blockchain.

b. The reliability of financial transactions is dependent on the underlying technology and if this underlying consensus mechanism has been tampered with, it could render the financial information stored in the ledger to be inaccurate and unreliable.

c. In the absence of any central authority to administer and enforce protocol amendments, there could be a challenge in the development and maintenance of process control activities and in such case, users of public blockchains find difficult to obtain an understanding of the general IT controls implemented and the effectiveness of these controls.

d. As blockchain involves humongous data getting updated frequently, risk related to information overload could potentially challenge the level of monitoring required. Furthermore, to find competent people to design and perform effective monitoring controls may again prove to be difficult.

Q13. What is Tokenization & What is its relationship with securitization? **(Past Exam)**

A. Tokenization is a process of converting tangible and intangible assets into blockchain tokens. Digitally representing anything has recently acquired a lot of traction. It can be effective in conventional industries like real estate, artwork etc.

Since tokenization of illiquid assets attempts to convert illiquid assets into a product that is liquid and tradable, to some extent it resembles the process of Securitization.

Following are some similarities between Tokenization and Securitization:

(i) Liquidity: - First and foremost both Securitization and Tokenization inject liquidity in the market for the assets which are otherwise illiquid assets.

(ii) Diversification: - Both help investors to diversify their portfolio thus managing risk and optimizing returns.

(iii) Trading: - Both are tradable hence helps to generate wealth.

(iv) New Opportunities: - Both provide opportunities for financial institutions and related agencies to earn income through collection of fees.

Q14. Explain Securitization in Indian context. **(Important)**

A.

- Citi Bank pioneered the concept of securitization in India by bundling auto -loans into securitized instruments. Currently the market is dominated by a few players such as ICICI Bank, NHB, HDFC Bank etc

- Initially started with auto loan receivables, it has become an important source of funding for micro finance companies and NBFCs and commercial mortgage.
- In order to encourage securitization, the Government has come out with Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002, to tackle menace of Non-Performing Assets (NPAs) without approaching the Court.
- As per a report of CRISIL, securitization transactions in India touched a high of approximately Rs. 1.9 Trillion (~US$ 26 Bn), during pre-pandemic years of FY19 & FY20
- SEBI has allowed FPIs to invest in securitized debt of unlisted companies up to a certain limit.

Securitization Volumes in India

MUTUAL FUNDS 43Q |1PE

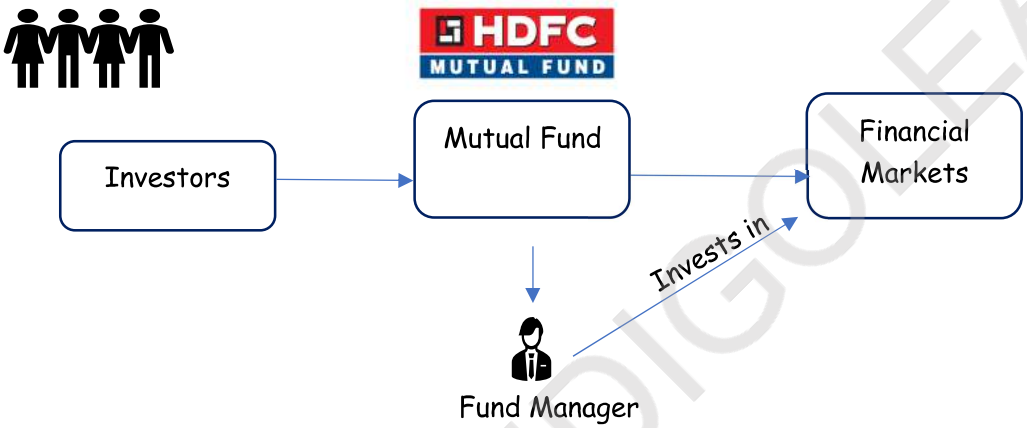
Q.1 What is Mutual Fund?

A. It is a,

- Trust
- that pools money from investors
- to collectively buy / own asset
- for mutual benefit of investors
- in proportion of their investment.

Q2. How does Mutual Fund work?

A.



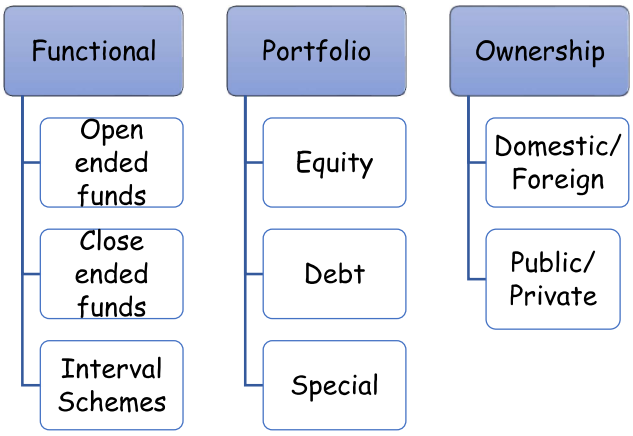
The fund is managed by a professional investment manager – Fund Manager

Fund Manager invests the money collected from different investors in various stocks, bonds or other securities according to specific investment objectives.

The net income earned and capital appreciation on the investment, after charging initial and ongoing expenses is shared amongst the unit holders in proportion to the units owned by them.

Q3. What are various ways of classifying Mutual Funds?

A.



Q4. What are Open Ended Funds?

A. Open Ended funds are those in which,

- Investor can make or / and redeem investments anytime directly transacting with the fund house.
- Open ended funds are not listed on the stock exchange.
- On fresh purchase by investors, money flows into mutual funds
- Good funds attract new investments

Q5. What are Closed-Ended Funds?

A. Closed Ended funds are those in which,

- Investors cannot make / redeem their investments anytime.
- Fund Manager can keep the investments till the end of tenure.
- SEBI, to provide liquidity to investors, has permitted listing of Mutual Fund scheme on the stock exchange.
- Price at which the scheme is listed on stock exchange may not be the underlying value of investment (NAV).
- If investors purchase units from exchanges, money flows to the selling investor and not the mutual fund.
- Fresh investments cannot be made into the fund

Q6. What are Interval Schemes?

A. Interval schemes are a mix between an Open-Ended and a Close-Ended structure.

  - They are close ended schemes, having liquidity just like open ended scheme where investments and withdrawals are permitted at periodic intervals
  - Not listed on Stock Exchange
  - Do not have maturity period

Q7. What are Equity Funds?

A. Equity Funds invest in Equities and there are of multiple types like

Growth Funds: They are best for long term investments as they provide long term appreciation on investments

Aggressive Funds: They aim for higher than normal return ,hence invest in risky securities (eg. Startups ,IPO, speculative shares etc.). Investors who can take risk can opt these.

Income Funds: They invest in safe securities paying high dividend and in high yield money market instruments. Investors seeking periodical income prefer them.

Equity funds investments are subject to market risk and the returns fluctuate based on movement in prices of underlying shares.

Q8. What are Debt Funds?

A. Debt Funds

Bond Funds: Bond Funds invest in fixed income securities market like bonds (government and corporate) and other debt securities. They are less volatile and less risky than stock funds. These funds provide regular income to the investors. Investors often use bond funds to diversify their investment portfolio.

Gilt Funds: Gilt funds invest only in government securities. These funds are highly secured and carry only the interest rate related risk (discussed below).

Risk associated with debt funds

Interest Rate Risk: There is inverse relationship between market value of bond and interest rate. As interest rate goes up market value of Bond falls and vice versa.

Credit Risk: This risk is of default in repayment of principal and/or interest. If the companies in which a mutual fund has invested fail to repay principal or pay interest, investors lose money.

Prepayment Risk: This risk is related to early repayment (prior to maturity) of principal by the issuer of Bonds. This generally happens in case of falling interest rates. A company which has already issued Bond at higher interest rate issues fresh Bonds at lower rate of interest and exercises its right of early redemption of Callable Bonds.

Q9. What are Index Funds?

A. Index Funds: Every stock market has a stock index which measures the upward and downward movement of the stock market. For example, Nifty, Sensex, Nifty IT Index etc. Index Funds mirror the stocks comprising the index based on weight assigned in the index. These funds provide returns which are closer to market returns.

Q10. What are International Funds?

A. A mutual fund located in India to raise money in India for investing globally.

Q 11. What are Offshore Funds?

A. Offshore Funds: A mutual fund located in India to raise money globally for investing in India.

Q 12. What are Sector Funds?

A. They invest their entire fund in a particular industry e.g. Banking fund invest in Banks, Real Estate funds in Real estate, Utility fund for utility industry like power, gas, public works etc.

Q13. What are Money Market Funds?

A. These are liquid funds which invest predominantly in safer short-term instruments like Commercial Papers, Certificates of Deposit, Treasury Bills, G-Secs etc. They are debt-oriented schemes with objective of preservation of capital, high liquidity, and moderate income. These schemes are used mainly by institutions and individuals to park their surplus funds for short periods of time..

Q.14. What is Fund of Funds?

A. These schemes invest in other mutual fund schemes. The concept is popular in markets where there are number of mutual fund offerings and choosing a suitable scheme according to one's objective is tough.

Q15. What is a Capital Protection Oriented Fund?

A. It aims to protect the capital invested. These types of schemes are close ended in nature, listed on the stock exchange and the intended portfolio structure is required to be rated by a credit rating agency.

Major portion of fund is invested in highly rated debt instruments. The remaining portion is invested in equity or equity related instruments to provide capital appreciation.

Q16. What are Gold Funds?

A. Gold funds invest in gold, either physical or digital. The units represent the value of gold or gold related instruments held in the scheme. Gold Funds which are generally in the form of an Exchange Traded Fund (ETF) and are listed on the stock exchange. Investors can participate in the gold market (bullion market) without the need of physically buying gold.

Q.17 What are Quant Funds?

A. A Quant Fund works on a data-driven approach for stock selection and investment decisions based on pre-determined rules or parameters using statistics or mathematics-based models.

Quant Funds rely on automated programmes that help in taking decision for quantum of investment as well as its timings and action and the concerned manager must act accordingly, unlike an active fund manager who selects the quantity, price of share and timing of investments (entry or exit) based on his/ her analysis and judgement.

In Quant funds the Fund Manager usually focuses on the robustness of the Models in use and monitors its performance on continuous basis and if required some modification is done in the same.

A 'Quant Fund Manager' is different from an 'Index Fund Manager'.

- The Index Fund Manager entirely hands off the investment decision purely based on the concerned Index,

- The Quant Fund Manager designs and monitors models and makes decisions based on the outcomes.

The prime advantage of Quant Fund is that it eliminates the human biasness and subjectivity and by using model-based approach also ensures consistency in strategy across the market conditions. Since a Quant Fund normally follows passive strategy their expense ratio generally tends to be lower than the actively managed Mutual Fund Schemes.

However, Quant Funds are tested based on historical data and past trends though cannot altogether be ignored but also cannot be used blindly as good indicators.

Q18. What are Balanced-Funds?

A. Balanced funds make investments in both debt as well as equities. The debt portfolio of the scheme provides stable return with lower risk and equity portfolio provides higher return with higher risk. Such funds provide moderate returns to the investors as the investors are neither taking too high risk nor too low a risk.

Q19. What are Equity Diversified Funds?

A. Diversified funds invest in wide array of stocks where the fund manager ensures a high level of diversification in its holdings, thereby reducing the amount of risk in the fund. Eg, Flexi or Multi cap funds, Contra Funds, Index Funds, Dividend Yield Funds

Q20. What are Flexicap/ Multicap Funds?

A. Investments are made in small caps, mid-caps and large caps funds based on the limits specified in the scheme documents.

Q21. What are Contra funds?

A. A contra fund invests in those out-of-favour companies that have unrecognised value. Investors who invest in contra funds have an aggressive risk appetite and expect higher returns.

Q22. What is an Index Fund?

A. Index fund: An index fund invests in stocks comprising an index and in seeks to mirror the performance of a benchmark market index like the BSE Sensex or S&P CNX Nifty. The fund maintains the portfolio of all the securities in the same proportion as stated in the benchmark index and earns almost the same return as earned by the market subject to tracking error (explained below)

Q23. What is a Dividend Yield Fund?

A. A dividend yield fund invests in shares of companies having high dividend yields.

Dividend yield = $\frac{DPS}{CMP}$

Most of these funds invest in stocks of companies having a dividend yield higher than the dividend yield of a particular index, i.e., Sensex or Nifty. The prices of dividend yielding stocks are generally less volatile than growth stocks and offer growth potential. Among diversified equity funds, dividend yield funds are a medium-risk proposition. But these funds have not always proved resilient in short- term corrective phases.

There are two options for earning Income from Mutual Fund Schemes:

1. **Growth/Appreciation or Cumulative Option:** Under this option, the investor doesn't get any intermittent income. The investor gets income only at the time of withdrawal of investment. Till the time of withdrawal, the return gets accumulated & is paid back to the investor at the time of withdrawal in the form of capital gain.
2. **Dividend Option:** At a regular frequency may be monthly/quarterly/half yearly or Annual, the Scheme declares dividend to the unitholders of the Scheme. Dividend option is further divided in two sub-options as under:
   - Dividend Payout Option: Dividends are paid out to the unit holders under this option. However, the NAV of the units falls to the extent of the dividend paid out and applicable statutory levies.
   - Dividend Re-investment Option: The dividend that accrues on units under option is re- invested back into the scheme at ex-dividend NAV. Hence, investors receive additional units on their investments in lieu of dividends.

Option	Dividend Reinvestment	Growth
Initial investment	Rs. 50,000	Rs. 50,000
NAV	Rs. 10	Rs. 10
Units received	5,000	5,000
NAV at the end of one year	Rs. 15	Rs. 15
Declaration of a dividend of Rs. 2 per unit		
Dividend received	Rs. 10,000	NIL
Dividend reinvestment	Rs. 10,000	NIL
NAV post dividend distribution	Rs. 13 (15-2)	Rs. 15
Units for dividend reinvestment	769.23 (Rs. 10,000/13)	NIL
Total units	5,769.23	5,000
Total value of investments	Rs. 74,999.99	Rs. 75,000

Q24. What is an Equity Linked Saving Scheme (ELSS)?

A. ELSS have a lock-in period as prescribed by Income Tax Act (generally 3 years)

It has the potential to give better returns than traditional tax savings instrument and provide the options for investors to save taxes under Section 80C of the Income Tax Act.

Investing in ELSS through a Systematic Investment Plan (SIP) can help investors to average the cost of holdings. SIPs also reduce the burden of one-time investment/outflow.

Q25. What are Sector Funds?

A. These funds are highly focused on a particular industry with the objective to enable investors to take advantage of industry cycles.

As sector funds ride on market cycles, they have the potential to offer good returns if the timing is perfect. However, they lack downside risk protection as available in diversified funds.

Sector funds should constitute only a limited portion of one's portfolio, as they are much riskier than a diversified fund.

Q26. What are Thematic Funds?

A. A Thematic fund focuses on trends that are likely to result in the 'out -performance' by certain sectors or companies. The theme could vary from multi-sector, international exposure, commodity exposure etc. Unlike a sector fund, theme funds have a broader outlook.

However, the downside is that the market may take a longer time to recognize views of the fund house with regards to a particular theme, which forms the basis of launching a fund.

Q27. What is an Arbitrage Fund?

A. Arbitrage fund seeks to capitalize on the price differentials between two markets, generally - the spot and the futures market.

It aims to generate low volatility returns by investing in a mix of cash equities, equity derivatives and debt markets.

The fund seeks to provide better returns than typical debt instruments and lower volatility in comparison to equity.

This fund is aimed at an investor who seeks the return of small savings instruments, safety of bank deposits, tax benefits of RBI relief bonds and liquidity of a mutual fund.

Q28. What are Hedge Funds?

A. Hedging is actually the practice of attempting to reduce risk, but the goal of most hedge funds is to maximize return on investment and not hedge.

Hedge funds are mutual funds in the sense that they collect money from a number of people.

They are not subject to regulations like mutual funds. A Hedge Fund is a lightly regulated investment fund that escapes most regulations by being a sort of a private investment vehicle being offered to selected clients.

Hedge funds cannot be started in India but foreign hedge funds can invest in India.

Hedge funds invest aggressively across financial instruments – debts, derivatives, equity, commodities etc. in both domestic and international markets with the goal of generating high returns

The big difference between a hedge fund and a mutual fund is that the former does not reveal anything about its operations publicly and charges a performance fee. Typically, if it outperforms a benchmark, it takes a share in the profits.

Q29. What are Cash Funds?

A. Cash Fund is an open-ended liquid scheme that aims to generate returns with lower volatility and higher liquidity through a portfolio of debt and money market instrument.

The fund has retail, institutional and super institutional plans. Each plan offers growth and dividend options.

Q30. What is an Exchange Traded Fund (ETF) and its various types? **(Important)**

A. ETFs can be bought and sold like any other stock on an exchange. The quoted prices are expected to be closer to the NAV at the end of the day.

Types of ETFs

Index ETFs - Most ETFs are index funds that hold securities and attempt to replicate the performance of a stock market index.

Commodity ETFs - Commodity ETFs invest in commodities, such as precious metals and futures.

Bond ETFs - Exchange-traded funds that invest in bonds are known as bond ETFs.

Currency ETFs – These funds deal in currency. Investors can invest in currency indirectly through these ETFs.

Q31. What are Fixed Maturity Plans?

A. Fixed Maturity Plans (FMPs) are close ended mutual funds in which an investor can invest during a New Fund Offer (NFO).

FMPs have a fixed tenure or a maturity date.

FMPs usually invest in Certificates of Deposits (CDs), Commercial Papers (CPs), Money Market Instruments and Non-Convertible Debentures over fixed investment period

FMPs are traded on stock exchanges.

The main advantage of Fixed Maturity Plans is that they are free from any interest rate risk because FMPs invest in debt instruments that have the same maturity as that of the fund.

However, they carry credit risk, as there is a possibility of default by the debt issuing company. So, if the credit rating of an instrument is downgraded, the returns of FMP can come down.

Q32. What are advantages of Mutual Funds? **(Important)**

A. Professional Management: The funds are managed by skilled and professionally experienced managers with a dedicated research team.

Diversification: Mutual Funds offer diversification in portfolio by investing in various securities which reduces the risk and increases returns. An individual may not be able to invest in multiple securities with limited amounts.

Convenient Administration & Low Management cost: There are no administrative risks of share transfer, as many of the Mutual Funds offer services online which save investor time and delay. Investors have no administration cost other than specified charges. Any extra cost of management is to be borne by the AMC.

Higher Returns: Over a medium to long-term investment, investors generally get higher returns in Mutual Funds as compared to other avenues of investment.

Liquidity: In all the open-ended funds, liquidity is provided by direct sales / repurchase by the Mutual Fund and in case of close ended funds, the liquidity is provided by listing the units on the Stock Exchange.

Highly Regulated: In India, all Mutual Funds are registered with SEBI and are strictly regulated as per the Mutual Fund Regulations which provide excellent investor protection.

The SEBI Regulations now compel all the Mutual Funds to disclose their portfolios on a periodic basis. The NAVs are calculated on a daily basis in case of open-ended funds and are available online.

Flexibility: An investor can opt for Systematic Investment Plan (SIP), Systematic Withdrawal Plan etc. to plan his cash flow requirements as per his convenience.

Economics of Scale: The "pooled" money from several investors ensures that mutual funds enjoy economies of scale; it is cheaper compared to investing directly in the capital markets which involves higher charges.

Convenience : One can invest in a MF scheme very easily using mobile apps, on through MF company websites sitting at home and also monitor their performance completely online

Q33. What are drawbacks / disadvantages of Mutual Funds? **(Important)**

A. No Guarantee of Return

All Mutual Funds do not generate great returns. There may be some who may underperform the benchmark index. It may be possible where markets have risen, and the mutual fund scheme increased in value but the investor would have got the same increase had he invested on his own.

Unethical Practices

Mutual Funds may not play a fair game. Sometimes the managers may sell some of their holdings to sister concerns for substantive notional gains and showing higher NAVs.

Diversification

A mutual fund helps to create a diversified portfolio. Though diversification minimizes risk, it does not ensure maximum returns. The returns that mutual funds offer may be less than what an investor can achieve.

For example, if a single security held by a mutual fund doubles in value, the mutual fund itself would not double in value because that security is only one small part of the fund's holdings. By holding many different investments, mutual funds tend to do neither exceptionally well nor exceptionally poor.

Selection of Proper Scheme

It may be easier to select the right share rather than the right fund. For stocks, one can base his selection on the parameters of economic, industry and company analysis. In case of mutual funds, past performance is the only criteria to fall back upon, but past cannot predict the future.

Taxes

When making decisions about investor's money, fund managers do not consider the personal tax situations. For example, when a fund manager sells a security, a capital gain tax is triggered, which affects the profits the investor earns.

Transfer Difficulties

Complications arise with mutual funds when a managed portfolio is switched to a different financial firm. Sometimes the mutual fund positions must be closed out before a transfer can happen. This can be a major problem for investors. Liquidating a mutual fund portfolio may increase risk, increase fees and commissions, and create capital gains taxes.

Q34. What is NAV?

A. Net Asset Value (NAV) represents the market value of total assets of the Fund reduced by total liabilities attributable to those assets. It is computed on per unit basis i.e. dividing the Net Asset Value by number of Outstanding Units. It is the amount which a unit holder would receive if the mutual fund were wound up.

$\text{NAV per Unit} = \frac{Net\ Asset\ of\ the\ scheme}{No.\ of\ units\ outstanding}$
Net Assets of the scheme =
Market value of investments
+ Receivables
+ Other accrued income
+ other assets
- Accrued Expenses
- Other Payables
- Other Liabilities

Q35. What are Entry and Exit Loads?

A. Some Asset Management Companies (AMCs) have sales charges (entry load and/or exit load) to compensate for distribution costs. Entry and Exit Load in Mutual Fund are the charges one pays while buying and selling the fund, respectively.

Entry Load: It charged at the time an investor purchases the units of a scheme. The entry load percentage is added to the prevailing NAV at the time of allotment of units.

Exit Load: Exit load is charged at the time of redeeming (or transferring an investment between schemes). The exit load percentage is deducted from the NAV at the time of redemption (or transfer between schemes).

Q36. What is Trail Commission?

A. It is the amount that a mutual fund investor pays to his advisor each year. The purpose of charging this commission from the investor is to provide incentive to the advisor to review their customer's holdings and to give advice from time to time.

Distributors usually charge a trail commission of 0.30-0.75% on the value of the investment for each year that the investor's money remains invested with the fund company.

This is separate from any upfront commission that is usually paid by the fund company to the distributor out of its own pocket.

Q37. What is Expense ratio?

A. Expense Ratio

It is also referred to as the Management Expense Ratio (MER). It is the percentage of the assets that are spent to run a mutual fund scheme. It includes expenses like management and advisory fees, travel costs and consultancy fees. The expense ratio does not include brokerage costs for trading the portfolio. Paying close attention to the expense ratio is necessary. The reason is it can sometimes be as high as 2-3% which can undermine the performance of a mutual fund.

Q38. What is Side Pocketing? **(Important) (Past exam)**

A. Side Pocketing in Mutual Funds leads to separation of risky assets from other good investments and cash holdings. This is done to make sure that money invested in a mutual fund, which is linked to stressed assets, gets locked, until the fund recovers the money from the company or could avoid distress selling of illiquid securities.

Whenever, the rating of a mutual fund falls, the fund can shift illiquid assets into a side pocket with an independent NAV, so that there is no undue pressure on redemption of its better rated liquid assets of the scheme. Consequently, the Net Asset Value (NAV) of the scheme will then reflect the actual value of the liquid assets.

Side Pocketing is beneficial for those investors who wish to hold on to the units of the main funds for long term.

Q39. What is Tracking Error?

A. Tracking error can be defined as deviation of a fund's return from the benchmarks return. Although fund managers design their investment strategy to generate returns of an index but often it may not exactly replicate the index return.

The tracking error can be calculated based on corresponding benchmark return vis a vis quarterly or monthly average NAVs.

Higher the tracking error higher is the risk profile of the fund. Whether the funds outperform or underperform their benchmark indices, it clearly indicates that of fund managers are not able to generate returns provided by index.

Other reasons for tracking errors are – Transaction cost, Fees charged by AMCs, Fund expense, Cash holdings etc. If a fund can replicate index returns, the tracking error would be 0.

The Tracking Error (TE) is calculated as follows:

$$TE = \sqrt{\frac{\sum(d - \bar{d})^2}{n-1}}$$

d = Differential return | d' or $\bar{d}$ = Average differential return | n = No. of observation

Q40. What is a Dividend Equalisation Reserve?

A. In an Open-Ended scheme, the Mutual Fund investor can make entry and exit any time into the scheme. The new investors who buy mutual fund units between any two distribution periods are not entitled to any share of the income of the scheme which accrued before they bought their units.

However, at the end of each distribution period, the mutual fund management allocates the same amount of dividend from the income of the fund to each unit whether new or old.

To compensate old investors for this anomaly, an equalisation payment is added to the cost of new units at the time of purchase. It is the amount of income that has arisen up to the date of purchase of the unit. This amount is later effectively repaid to the purchaser at the time of dividend distribution.

Similarly, at the time of exit, the amount of income that has arisen up to the date of repurchase of units, is added to the repurchase price to compensate the outgoing investor.

Q41. How does one evaluate Mutual Funds?

A. Selection of a Mutual Fund investment is as important as its performance evaluation.

Why should one evaluate performance of a Mutual Fund investment?

- To ensure that fund continues to generate maximum profits with minimum risk.
- If performance is not up to the mark, then a replacement decision has to be taken.
- Past performance cannot guarantee the future performance.

Since market is subject to fluctuations, evaluation of performance on daily basis is not advisable. Further, at least a time of 3 to 5 year should be given to equity fund to assess its return. However, ideally the performance should be evaluated at least every six/twelve month.

Parameters used to evaluate the performance of any Mutual Fund:

Quantitative Parameters

These parameters consist of quantitative data and numbers.

(1) Risk Adjusted Returns: - Basically it is the return of a Mutual Fund relative to the risk it assumed as benchmarked against the market and industry risk. For a given return an investor shall always opt for the fund that has lower risk.

(2) Benchmark Returns: - Benchmark can be defined as the quality or set of standards against which performance of Mutual Fund can be measured. A good Mutual Fund performs over and above its benchmark during all phases of market, this excess return is known as 'Alpha'. For example, generally Equity funds are benchmarked to the Sensex or Nifty 50. Suppose if during a particular period, Index has provided a return of 11% whereas a Mutual Fund has provided a return of 13% then the same fund has outperformed the benchmark i.e., Index. Similarly, if same Fund has provided a return of 8% then it has underperformed.

(3) Comparison to Peers: - Similar to evaluating performance of Mutual Fund against Benchmark, the comparison of relative performance of fund with its peers (of same category) is another quantitative method because evaluation of performance in isolation does not have any meaning. A good mutual fund is supposed to consistently beat its peers in performance only then it is worthwhile to hold it.

(4) Comparison of Returns across different economic and market cycles: - At the time of evaluating performance of any Mutual Fund one should not just look across different time frames such as 6 months, 12 months etc. but performance during different economic and market cycles also needs to be evaluated because, due to some special economic or market condition a Mutual Fund might have outperformed/underperformed for a short time. It may not be necessary that such conditions shall be continued in future period for ever.

(5) **Financial Measures:** - There are some financial measures that help in evaluation of performance of any Mutual Fund which are as follows:

(a) Expense Ratio: - Discussed in earlier section, it ultimately impacts the return of a Mutual Fund Scheme.

(b) Sharpe Ratio: - As discussed in the chapter on Portfolio Management, this ratio measures the Mutual Fund's performance measured against the total risk (both systematic and unsystematic) taken.

$$\text{Sharpe Ratio} = \frac{R_p - R_f}{\sigma}$$

(c) Treynor Ratio: - As discussed in the chapter on Portfolio Management, beta measures the volatility of return of a security vis-à-vis to the market, in mutual funds the Beta of a mutual fund measures volatility of a fund's return to return from its Benchmark. Treynor Ratio measures performance of a mutual fund against the systematic risk it has taken.

$$\text{Treynor Ratio} = \frac{R_p - R_f}{\beta}$$

(d) Sortino Ratio: - A variation of Sharpe Ratio that considers and uses downside deviation instead of total standard deviation in denominator.

$$\text{Sortino Ratio} = \frac{R_p - R_f}{\sigma_d}$$

Qualitative Parameters

Some of the Qualitative factors that need to be considered in addition to Quantitative Factors are as follows: -

(1) Quality of Portfolio: - Quality of stocks and securities in the portfolio of the Mutual Funds is an important qualitative parameter. The reason is that the quality of the portfolio plays a big role in achieving superior returns. The qualitative characteristic of portfolio of Equity Mutual Fund involves allocation of funds in top Blue-chip companies, large companies and how diversified is the portfolio. The style followed can be growth, value, or blend of the same. In Debt Funds, the quality of portfolio is measured based on credit quality, average maturity, and modified duration of the fixed asset securities.

Not only that it is necessary that Mutual Fund should hold good quality stocks or securities, but it is also necessary the investment should be as per the objective of the Fund. Under normal circumstances, a fund having lower Portfolio Turnover ratio is better.

(2) Track record and competence of Fund Manager: - Since Fund Manager decides about the selection of securities and takes investment decisions, his/her competence and conviction play a very big role. The competence of a Fund Manager is assessed from his/her knowledge and ability to manage in addition to past performance.

(3) Credibility of Fund House Team: - Team of Fund House also plays a big role towards the investors' interest. In addition to investment decisions, there are some other administrative tasks also such as redemption of units, crediting of dividend, providing adequate information etc. which play a crucial role in qualitative assessment of any mutual fund house.

Q.42 What is the role of Fund Managers in Mutual Funds

A. Like Portfolio Manager (who manages individual's fund) a Fund manager is a gatekeeper of funds of any Mutual Fund. While the main responsibility is to ensure good performance of the fund he/she is managing, there are other roles as well. The nature of Fund manager's role also depends on the fact that whether Fund is an Actively Managed Fund or a Passively Managed Fund.

- Actively Managed Funds: Fund Manager's role in these funds is more crucial as through use of his extensive research, judgement and due diligence, he/she has to outperform the market and generate positive alpha. Right stock picking can help him to outperform.
- Passively Managed Funds: Contrary to Actively Managed Funds, in these types of Funds, mainly Fund Manager's role is to match the return of the underlying index with the minimum Tracking Error.

In addition to the abovementioned primary role of a Fund Manager, following are other key roles of a Fund Manager

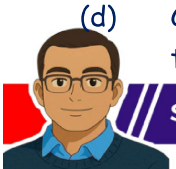
(a) Compliances: A Fund Manager must ensure that:

  - Compliance of various Guidelines as laid down by SEBI, AMFI etc.
  - Ensuring various reporting such as Expenses Ratio, redemption of funds etc.
  - Ensuring that investors are aware of various required details and rules.
  - Ensuring that all required documents are furnished on time.

(b) Constant Monitoring the Performance of the Fund: - The role of a Fund Manager does not end with selection of securities or avenues for investments, but he/ she also has to evaluate them on a continuous basis. It is the Mutual Fund Manager's decision to enter or exit market that maximises the wealth of unit holders. The performance of a Fund Manager is not only judged on the basis of return but also on growth achieved above inflation and interest rate.

(c) Creation of Wealth and Protection: - This role can be considered as a fundamental role of a Fund Manager. Though wealth creation for investors is very important but reckless risk taking should be avoided. The investments should be made after a thorough research using Fundamental Analysis and Technical Analysis techniques.

(d) Control over the works outsourced to third parties: - In many cases some of the works of the Funds are required to be outsourced to any third party. In such cases, it is the duty of



the Fund Manager to exercise proper control over functioning of the third party to ensure error free operations.

Q.43 What is the role of FIIs in Mutual Funds?

A. The term FIIs refers to Foreign Institutional Investors.

FIIs are large foreign groups with substantial investible funds. FIIs are registered abroad with a view to investing in other nations to invest in equity market, hedge funds, pension funds and mutual funds. FIIs have strong research teams which guide them to invest in a country with a possibility of strong return in equity market.

FIIs are an important source of capital in any economy especially in developing economies. Normally, FIIs fuel a bullish market for a short period of time and hence a nation experiences a strong inflow of foreign currency in its financial system at that time.

FIIs can invest in stock directly or through Mutual Funds. They can buy units of domestic mutual funds either directly from the issuer of such securities or through a registered stockbroker on a recognized stock exchange in India. These investments are subject to limits notified by SEBI. Foreign institutional investors play a very important role in any economy. The FIIs plays an important role for Indian Economy through their investment in Mutual Funds because of following reasons:

(a) Enhanced Corporate Governance: - Generally FIIs before making investment in any Mutual Fund carry out a thorough due diligence of Corporate Governance. Hence, Corporate Governance has improved largely in the Mutual Funds.

(b) Improved Competition in Market: - With the investment of FIIs in Mutual Funds improvement takes place in the capital market.

(c) Improved Inflow of Capital in the economy: - With the investment of funds in Mutual Funds in the economy not only employment is generated but the position of Foreign Exchange also improves.

DERIVATIVES ANALYSIS AND VALUATION 68Q|5PE

Q1. What is a Derivative?

A. Derivative is a product whose value is derived from the value of one or more basic variables called underlying asset. The underlying assets can be equity, forex, or any commodity. The underlying asset will have marketable value and it is usually subject to risks.

A derivative is a financial security with a value that is derived from an underlying asset. In general, a derivative is a **contract between two parties** whose value is based on an agreed upon underlying asset.

Q2. What is a Forward Contract?

A. A forward contract is the simplest type of a derivative contract – It is an agreement between a buyer and a seller obligating the seller to deliver a specified asset of specified quantity and quality, to the buyer on a specified date at a specified place and the buyer in turn is obligated to pay to the seller a pre negotiated price in exchange for delivery.

Q3. What is a Futures Contract?

A. A futures contract is Just like a forward contract. It is an agreement between two parties **commit into on an Exchange** wherein one party commits to buy an underlying asset and the other party commits to sell an underlying asset at a specified price at a future date. The agreement is completed on the specified expiration date by physical delivery or cash settlement or offset prior to the expiration date.

The investor has an option to take the delivery or has an option to settle the contract in cash. Cash settlement means - exchange of the difference in the spot price of the commodity and the exercise price as per the futures contract.

In the futures market, the investors must enter contracts for an underlying set-in specified quantity called lots.

Q4. What is the difference between a Futures Contract & a Forward Contract? **(Important)**

A. A forward contract is a private and customizable agreement that settles at the end of the agreement and is traded over the counter. A futures contract has standardized terms and is traded on an exchange, where prices are settled daily until the end of the contract. The following are the differences between forward contracts and futures contract:

Forwards	Futures
Forward contract is an agreement between two individual parties.	Futures contracts are traded on an exchange.
There is a credit risk	There is no credit risk.
The contract is customized by both the parties.	The contract is standardized in specified lots.
It is over the counter	These are traded in stock exchanges.
Parties to a contract need not pay any margin money at the time of contract.	Parties to a contract need to pay the margin money at the time of contract
Contracts will be settled by both the parties on maturity date.	Contracts will be settled by an exchange on daily basis.

Minimum transaction costs.	More transaction costs
Usually, delivery-based transactions.	Usually, settlement based.

Q5. What are option Contracts?

A. Options are financial instruments that offers the buyer a right to buy or sell (depending on the type of contract they hold) the underlying asset at a specified price on a specified date. Unlike forward and futures, the holder is not required to buy or sell the asset if they choose not to. Options are classified as call options and put options depending upon the contract.

Q6. What are call options?

A. Call option gives the holder right to buy the asset at a stated price within a specific timeframe. The holder will exercise his right if the maturity value is more than the strike price. The holder will not exercise his right if the maturity value is less than the strike price. In order to get this Option, the buyer of an option contract usually pays to the seller of the option contract an amount called as **Premium.**

Q7. What are put options?

A. A Put Option gives the holder right to sell the asset at a stated price within a specific timeframe. The holder will exercise his right if the maturity value is less than the strike price. The holder will not exercise his right if the maturity value is more than the strike price.

Q8. What are the differences between Cash & Derivatives Markets? **(Important)**

A.

Cash Market	Derivatives Market
Cash market majorly deals with tangible assets which are purchased and received in exchange of cash immediately	Derivative market deals with intangible assets like stock indices, interest rates etc.
No specified lot size.	Specified lot size.
A person either consumes the asset or invest in the asset	Hedgers, speculators, and arbitrageurs deals with derivative market to reduce the risk or to make the profits
No margin requirements for both the parties.	Exchange fixes margins for both the parties.
Ownership will be transferred immediately	No transfer of ownership at the time of entering a contract.
Upfront cash commitment requires	Only margin or premia needs to be paid

Q9. Who are the users of Derivatives? **(Important)**

A. Following are the users of derivatives markets:

Dealers (Institutional Investors): For hedging position taking, exploiting inefficiencies and earning dealer spreads.

Hedgers (Usually Corporations): These people will deal with derivatives to reduce the risk. An investor who is looking to reduce the risk is called a hedger. He would reduce his asset / liability exposure to the price volatility. In the derivative market, the hedger would usually take up a position that is opposite to the risk he is otherwise exposed to. Generally, producers, manufactures and consumers will be the hedgers in the derivative markets to mitigate their exposures.

Speculators (Institutional & Individual Investors): These people are high risk takers who trade with the derivatives merely for the purpose of making profits. They will forecast market trends and take positions in derivative markets to make profits. They aim to maximize their profits in the short term. There is also an equal opportunity to incur losses also.
Generally, individuals and investment bankers will be the speculators in the derivative markets to make profits.

Arbitrageurs (Institutional & Individual Investors): These people take advantage of imperfections and inefficiencies to their advantage. Sometimes, the price of the stock in the cash market is lower or higher than it should be, in comparison with the derivatives market. Arbitrageurs take advantage of these and make sure profits. These players play an important role in increasing liquidity in the market.

Q10. What is basis in a futures contract?

A. The difference between the prevailing spot price of an asset and the futures price is known as **basis**.

Q11. What is Contango? Futures Price are always higher than Spot – elaborate **(Important)**

A. In a normal market, generally spot price is lower than the futures price. In this situation, the basis will be negative. This kind of market is called "**Contango Market**".

Q12. What is the Cost of Carry?

A. Cost of carry can be defined as the net cost of holding a position. It is the risk-free interest cost to hold the asset till the date of maturity of a derivative.
Futures Price = Spot + Cost of Carry

Q13. What is backwardation? Sometimes Spot is higher than futures price – explain **(Important)**

A. In some situations, the spot price can exceed the futures price only if there are factors other than cost of carry like dividend payments which affect the valuation. The situation where spot price is greater than futures price is called "**Backwardation**".

Q14. What is Convergence of Spot & Futures Price?

A. The movement of the price of a futures contract toward the spot price of the underlying cash commodity as the delivery date approaches is called "**Convergence**".

Q15. What are initial and Maintenance Margins & what is MTM? (Important)

A. All futures contracts are market to market (MTM) every day. I.e all gains and losses on daily closing values are computed and settled between the gaining and losing parties to the contract.
All players in the Derivatives markets are required to deposit a certain margin with the exchange in order to trade. The margin is used to fund the MTM losses. There are two types of margins, Initial Margin and Maintenance Margin.

The initial margin is to be deposited at the time of initiation of the contract and is usually a fixed percentage of the contract value.

The maintenance margin, lower than the initial margin, is always to be maintained for all open contracts. If the Maintenance margin falls below the threshold level due to MTM losses, money needs to be put in by the party to the contract and the margin be brought back to the initial margin level.

Q16. Differentiate between Single Stock Futures and Index Futures? **(Important)**

A. **Single Stock Futures**

A single stock futures contract is a standard futures contract with an individual stock as its underlying security. Unlike underlying asset, these stock futures do not carry voting rights or dividends. Each contract comprises of specified lots.

The contracts are standardized, making them highly liquid. To get out of an open long (buying) position, the investor simply takes an offsetting short position (sell). Conversely, if an investor has sold (short) a contract and wishes to close it out, he or she buys (goes long) the offsetting contract.

Index Futures

A stock market index is made up of a basket of stocks that indicate the general movement of stock prices. A contract for stock index futures is based on the level of a particular stock index such as the S&P 500 or the Dow Jones Industrial Average or NIFTY or BSE Sensex.

Stock index futures may be used to either speculate on the equity market's general performance or to hedge a stock portfolio against a decline in value. Stock index futures are not based on tangible goods; thus, all settlements are in cash.

Q17. Why do people trade in futures? **(Important)**

A. Trading in futures is for two purposes namely: (a) Speculation and (b) Hedging.

Speculation involves trading a financial instrument involving high risk, in expectation of significant returns. The motive is to take maximum advantage of fluctuations in the market.

A **hedge** is a strategy that mitigates against the risks to an investment. In many cases a hedge is an instrument or strategy that appreciates in value when your portfolio loses value. The profit from the hedge therefore offsets some or all the losses to the portfolio.

Q18. What are the advantages of Futures Trading Vs. Stock Trading? **(Important)**

A. Stock index futures is most popular financial derivatives over stock futures due to following reasons:

a) It adds flexibility and works as hedging tool to one's investment portfolio.
b) It creates the possibility of speculative gains using leverage because of relatively smaller margin amount.
c) Stock index futures are the most cost-efficient hedging device.
d) Stock index futures cannot be easily manipulated.
e) Stock INDEX is less volatile when compared to individual stock price.
f) Stock INDEX futures will be cash settled only.
g) It provides hedging or insurance protection for a stock portfolio in a falling market.

Q19. What are European Options?

A. It is an option which gives buyer a chance to exercise the contract only at the maturity date. There is no freedom to the buyer of an early exercise in European option. In Indian Market most of the options are European style options.

Q20. What are American Options?

A. It is an option which allows the holder to exercise the option at any time before and including the date of expiration. It allows an investor to capture profit as soon as the asset / underlying price moves favorably.

Q21. What are Stock Options?

A. Stock options involve no commitments on the part of the buyers of the options contracts individual to purchase or sell the stock. The option is usually exercised by the buyers only if the price of the stock has risen above the specified price (in case of call option) or fallen (in case of put option) below the specified price at the time of entering into option contracts.

These options are just contracts that give you the right to buy or sell the stock at a specific price on a specific date. Investing in options limits the risk, allows the buyer to participate in the reward with a small amount of capital.

Q22. What are Stock Index Options?

A. Stock INDEX options

These are options on stock indices like Sensex, NIFTY etc. Index represents a basket of stocks. These options are used as hedging tool by the portfolio managers to make a bet on the level of the index going up, an investor buys a call option outright. To make the opposite bet on the index going down, an investor buys the put option.

Q23. What is the impact of Current Spot Price on pricing of an Option?

A. The value of call & put options are affected by changes in the market prices of the asset.

Situation	Call Option	Put Option
Increase in Current Market Price	Increase in value	Decrease in value
Decrease in Current Market Price	Decrease in value	Increase in value

Q24. What is the impact of Strike Price on pricing of an Option?

A.

In the Money Option (ITM)	Highly Priced
Out the Money Option (OTM)	Cheaper rate
At the Money Option (ATM)	Relatively cheaper when compared to ITM option.

Q25. How does Time to expiry impact the pricing of an Option?

A. Option premium is summation of time value and intrinsic value. Option sellers are always compensated for the time risk. Both call and put options lose their value as the expiration approaches. The more time for expiry, the likelihood for the option to expire In the Money (ITM) is higher. An out of the money with short tenure will have less value. An out of the money with long tenure will have more value. In the Money (ITM) options with short tenure will have more value.

Q26. How does Volatility impact the pricing of an Option?

A. Volatility is a measure of risk. It can be seen as the standard deviation of returns from the mean. Volatility positively impacts the values of call and put options. An increase in the volatility of the stock increases the value of the call options and of the put option.

The holder of the option will only exercise the option when it is favorable and choose to forgo the premium when the price movement is negative. Higher volatility means higher upside risk or higher downside risk. This is the reason why higher volatility makes call options and put options more valuable.

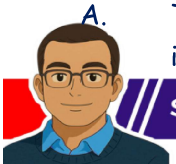
Q27. How do interest rates impact the pricing of an Option?

A. An increase in the interest rates reduces the present value of the strike price and makes the call option more valuable and the put option less valuable.

Situation	Call Option	Put Option
High Interest Rates	Increase in value	Decrease in value
Low Interest Rates	Decrease in value	Increase in value

Q28. What are Greeks?

A. The Greeks are a collection of statistical values (expressed as percentages) that give the investor a better overall view of how a stock has been performing. These statistical values



can be helpful in deciding what options strategies are best to use. These are based on past performance. These trends can change drastically based on new stock performance.

Q29. Explain Delta Δ of an Option?

A. Delta measures the rate of change in the option premium due to the change in the price of the underlying asset. Delta for call option is positive and delta for put option is negative. This is because put option and underlying asset price are inversely related. Delta is also called Hedge ratio.

$$\textbf{Delta } (\Delta) = \frac{\textit{Change in the price of the option}}{\textit{Change in the price of the stock}}$$

Q30. Explain what is Gamma (ɣ).

A. Gamma measures rate of change of delta. It is always positive for both call and put options.

$$\textbf{Gamma } (\gamma) = \frac{\textit{Change in the price of the option}}{\textit{Change in delta}}$$

Q31. Explain what is Theta (θ)

A. Option sellers are always compensated for the time risk. Theta refers to the rate of decline in the value of an option due to the passage of time. It can also be referred to as the time decay of an option. It is referred to as change in price of the option due to the change in time.

$$\textbf{Theta } (\theta) = \frac{\textit{Change in the price of the option}}{\textit{Change in time period}}$$

Q32. Explain what is Vega (V) **(Past Exam)**

A. This measures option sensitivity to volatility. It is the change in the option price for a one-point change in the volatility. Vega is also used for hedging.

$$\textbf{Vega } (V) = \frac{\textit{Change in the price of the option}}{\textit{Change in Volatility } 1\%}$$

Q33. Explain what is Rho (ρ). (Past Exam)

A. It is a rate at which the price of derivative changes relative to the change in the risk-free rate of interest. Rho measures the sensitivity of an option or options portfolio to 1 percentage change in interest rate.

$$\text{Rho } (\rho) = \frac{\textit{Change in the price of the option}}{\textit{Change in } \text{Interest rate } 1\%}$$

Q34. Explain Put Call Parity

A. The term 'parity' refers to a state of being equal or having equal value. This equation is useful to calculate the value of put option if we know the value of call option and vice versa. Put-call parity defines the relationship the price a European put option has with a European call option, provided they belong to the same class. The underlying asset of these two options need to be the same; they must have the same strike price and the same expiration date. If Put Call Parity is violated, arbitrage opportunities arise.

Put-call parity states that simultaneously holding a short put option and long call option of the same class will deliver the same return as holding a share of same underlying asset, with the same expiration, by borrowing an amount equivalent to the present value of the option's strike price. i.e $C + Ke^{-rt} = P + S_0$ (Mnemonic : Captain Kohli got excited and played a Pull Shot)

Q.35 What are Exotic Options?

A. Exotic options are the classes of option contracts with structure, features & expiry dates different from plain vanilla options.

Exercise of Exotic option is some type of hybrid of American and European options and hence expiry falls somewhere in between these options.

Differences between an Exotic Vs. Traditional Option

a. An exotic option can vary in terms of pay off and time of exercise.

b. These options are more complex than vanilla options.

c. Mostly Exotic options are traded in OTC market.

Q.36 What are various Types of Exotic Options?

The most common types of Exotic options are as follows:

(a) Chooser Options: This option provides a right to the buyer of option after a specified period of time (prior to contract expiry) to decide whether purchased option is a call option or put option. *Premium of such an option will be max of price of a call option or put option at the time of initiation of the contract*

(b) Compound Options: Also called as split fee option or 'option on option'. This option provides a right or choice not an obligation to buy another option at specific price on the expiry of first maturity date. Thus, it can be said in this option the underlying is an option. The payoff depends on the strike price of second option on the date of exercise of the first option. If second option is priced higher than what it originally was, then the first option will be exercised.

Types of compound options

Call	Put	Call	Put
⬇	⬇	⬇	⬇
Call	Call	Put	Put

(c) Barrier options: The unique feature of this option is that contract will become active only if the price of the underlying reaches a certain price during a predetermined period. Types of barrier options Kock out & Knock in further subdivided as up & down options.

Knock out option: If the underlying asset prices reaches a certain level, the option CEASES to exist.

Knock in Option: If the underlying asset prices reaches a certain level, the option COMES INTO EXISTENCE.

These knock out & Knock in options can be further sub divided as follows:

A down and Out (Knock Out)	Call	Put
A down and in (Knock in)	Call	Put
An Up and Out (Knock Out)	Call	Put
An Up and in (Knock in)	Call	Put

(d) Binary Options: Also known as 'Digital Option', this option contract guarantees the pay-off based on the happening of a specific event. If the event has occurred, the pay-off shall be pre- decided amount and if event it has not occurred then there will be no pay-off.

Cash or Nothing (Payoff is pre-determined)	Call	Put
Asset or Nothing (Payoff is the value of asset)	Call	Put

(e) Asian Options: These are the option contracts whose pay off are determined by the average of the prices of the underlying over a predetermined period during the lifetime of the option.

Average Price option pay off.

MP is replaced by Average of MP

Asian Average Price Buy Call option pay off - Max (o, S_{Avg} – K)

Asian Average Price Buy Put option pay off - Max (o, K - S_{Avg})

Average Strike option pay off.

MP is replaced by Average of MP

Asian Average Strike Buy Call option pay off - Max (o, S – S_{Avg})

Asian Average Strike Buy Put option pay off - Max (o, S_{Avg} - S)

(f) Bermuda Option: It is a compromise between a European and American options. The exercise of this option is restricted to certain dates or on expiration like European option.

(g) Basket Options: In this type of contracts the value of option is dependent on value of a portfolio i.e., a basket., instead of a single asset, generally value of the option is computed based on the weighted average of underlying constituting the basket.

(h) Spread Options: The payoff of these type of options depends on difference between prices of two underlying. Eg: Crude Spread; bond yield spreads etc

(i) Look back options: In this option on maturity date the holder of the option is given a choice to choose a most favourable strike price depending on the minimum and maximum price of an underlying achieved during the lifetime of the option; Eg for a buy call, the holder can choose the lowest price at which the underlying traded during the life of the option

Q37. What are Credit Derivatives?

A. Credit Derivatives were started in 1996, to meet the need of the banking institutions to hedge their exposure of lending portfolios.

Financial products are subject to following two types of risks:

(a) Market Risk: Due to adverse movement of the stock market, interest rates and foreign exchange rates.

(b) Credit Risk: Also called counter party or default risk, this risk involves non-fulfilment of obligation by the counter party.

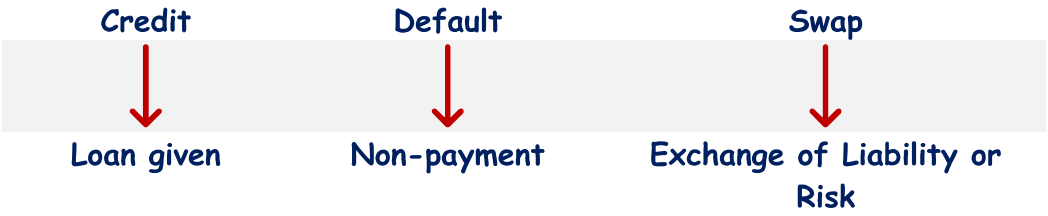
Financial derivatives can be used to hedge the market risk, *credit derivatives emerged out to mitigate the credit risk.*

Accordingly, the credit derivative is a mechanism whereby the risk is transferred from the risk averse investor to those who wish to assume the risk.

There are multiple types of Credit derivatives. We will look at two types of credit Derivatives: 'Credit Default Swap' (CDS) and 'Collateralised Debt Obligation' (CDO)

Q.38 What are Credit Default Swaps?

CDS is as an insurance against the risk of default on a debt which may be debentures, bonds etc.



The buyer of a CDS gets protection against the default of a Bond / debenture from the seller of the CDS. The buyer pays a periodic premium to the seller, who in turn assumes the default risk.

In case default takes place then there will be settlement and in case no default takes place no cash flow will accrue to the buyer, just like an option contract and the agreement is terminated.

Although it resembles the options, since the element of choice is not present (i.e no one will refuse to exercise the swap when there is a default of the underlying asset) it resembles swap arrangements.

Q 39. What are Various Default Events?

Bankruptcy: A bankruptcy protection filing allows the defaulting party to work with creditors under the supervision of the court to avoid full liquidation.

Failure to pay: Occurs when the issuer misses a scheduled coupon or principal payment without filing for formal bankruptcy.

Restructuring: Occurs when the issuer forces its creditors to accept different terms than those specified in the original issue.

Q 40. What are main features of CDS?

The main features of CDS are as follows:

(a) Non-standardized private contract between the buyer and seller. Therefore, it is covered in the category of Forward Contracts.

(b) Not normally traded on any exchange and hence remains free from the regulations of Governing Body.

(c) The International Swap and Derivative Association (ISDA) publishes the guidelines and general rules used normally to carry out CDS contracts.

(d) CDS can be purchased from third party to protect from default of borrowers.

(e) An individual investor who is buying bonds from a company can purchase CDS to protect his/her investment from insolvency of that Company. Thus, this increases the level of confidence of investor in Bonds purchased.

(f) The cost or premium of CDS has a positive relationship with risk attached with loans. Therefore, higher the risk attached to Bonds or loans, higher will be premium or cost of CDS.

(g) If an investor buys a CDS without being exposed to credit risk of the underlying bond issuer, it is called "naked CDS".

Q 41. What are uses of CDS?

(a) Hedging- Main purpose of using CDS is to neutralize or reduce a risk to which CDS is exposed to. Thus, by buying CDS, risk can be passed on to CDS seller or writer.

(b) Arbitrage- It involves buying a CDS and entering into an asset swap. For example, a fixed coupon payment of a bond is swapped against a floating interest stream.

(c) Speculation- CDS can also be used to make profit by exploiting price changes. For example, a CDS writer assumes, who risk of default, will gain from contract if credit risk does not materialize during the tenure of contract or if compensation received exceeds potential payout.

Q 42. Who are the parties to CDS?

i. The initial borrowers- Also called 'reference entity', which are owing a loan or bond obligation.

ii. Buyer- Called 'investor' i.e. the buyer of protection. The buyer will make regular payment to the seller for the protection from default or credit event of reference entity.

iii. Seller- Called 'writer' of the CDS and makes payment to buyer in the event of credit event of reference entity. It receives a regular pay off from the buyer of CDS.

Q 43. How is a CDS Settled?

(i) Physical Settlement – This is the traditional method of settlement. It involves the delivery of Bonds or debts of the reference entity by the buyer to the seller and seller pays the buyer the par value.

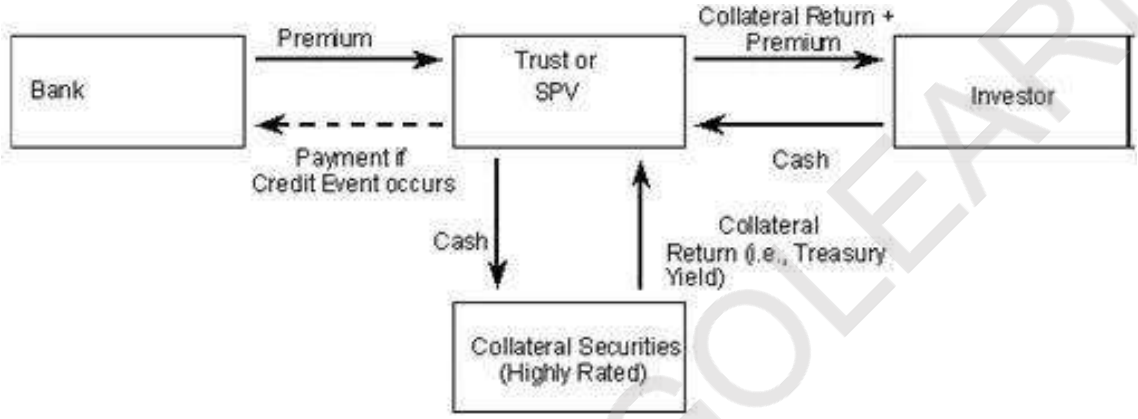
(ii) Cash Settlement - Under this arrangement seller pays the buyer the difference between par value and the market price of a debt (whatever may be the market value) of the reference entity. To increase transparency, a credit event auction was developed wherein a price is set for all market participants that choose cash settlement.

Q 44. What is a Credit Linked Note (CLN)?

A credit-linked note (CLN) is a form of funded credit derivative. It is structured as a security with an embedded credit default swap allowing the issuer to transfer a specific credit risk to credit investors. The issuer is not obligated to repay the debt if a specified event occurs. This eliminates a third-party insurance provider.

It is a structured note issued by a special purpose company or trust, designed to offer investors par value at maturity unless the referenced entity defaults. In the case of default, the investors receive a recovery rate.

The purpose of the arrangement is to pass the risk of specific default onto investors willing to bear that risk in return for the higher yield it makes available. The CLNs themselves are typically backed by very highly rated collateral, such as U.S. Treasury securities.



Step 1: A bank lends money to a company, XYZ.

Step 2: At the time of loan issues credit-linked notes

Step 3: CLNs are bought by investors.

Step 4: The interest rate on the notes is determined by the credit risk of the company XYZ.

Step 5: The funds the bank raises by issuing notes to investors are invested in bonds with low probability of default.

Step 6: If company XYZ is solvent, the bank is obligated to pay the notes in full.

Step 7: If company XYZ goes bankrupt, the noteholders/investors become the creditor of the company XYZ and receive the company XYZ loan.

Step 8: The bank in turn gets compensated by the returns on less-risky bond investments funded by issuing credit linked notes.

Q 45. What is an Asset Backed Security (ABS)?

A. ABS is a pool of assets that consists of any debt like credit card debt, outstanding auto loans, student loans, or any other debts.

Figure 8.1 An asset-backed security (simplified); bp = basis points (1bp = 0.01%).

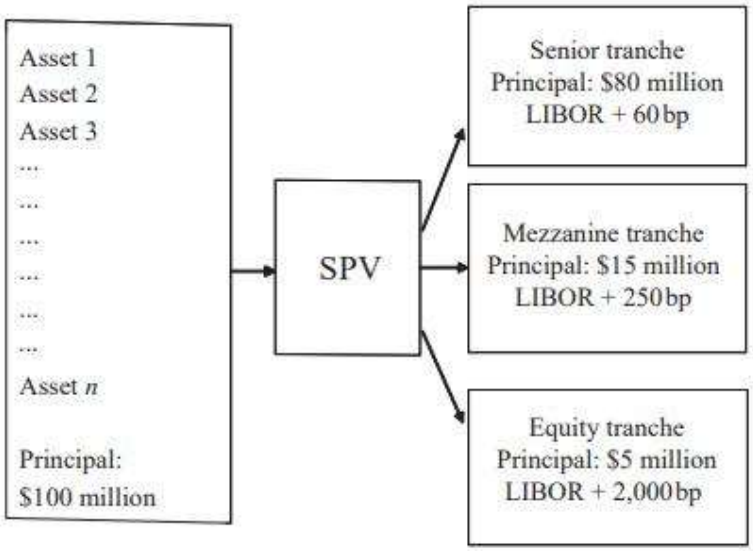
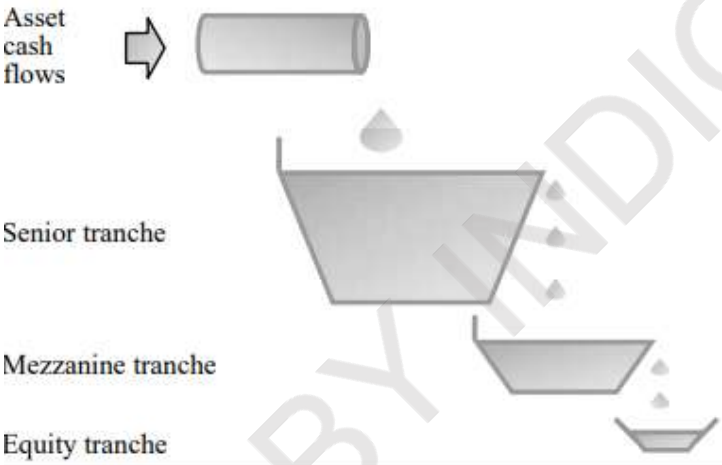


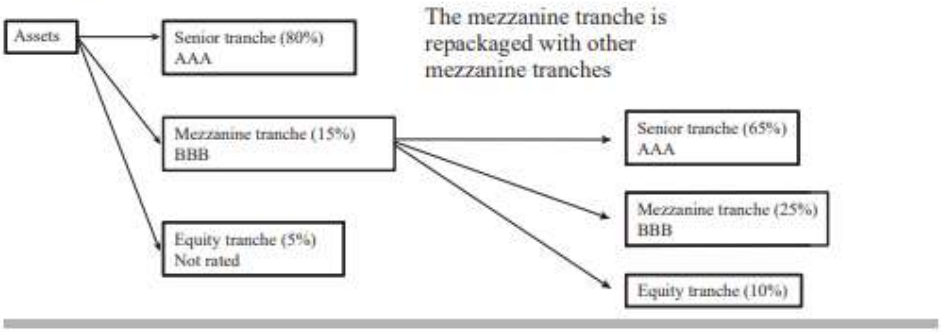
Figure 8.2 The waterfall in an asset-backed security.



Q 46. What are CDOs?

A CDO is an ABS issued by a special purpose vehicle (SPV). The SPV is a business entity or trust formed specifically to issue that collateralized debt obligation (CDO). A CDO consists of a pool of debt, such as auto loans or home equity loans & mortgage loans and other ABS. It is a way of creating securities with widely different risk characteristics from a portfolio of Debt Instruments

Figure 8.3 An ABS CDO (simplified).



Q 47. What are various Types of CDOs?

The various types of CDOs are as follows:

(a) Cash Flow Collateralized Debt Obligations (Cash CDOs): Cash CDO is a CDO which is backed by cash market debt or securities which normally have low risk weight. This structure mainly relies on the collateral's risk weight and collateral's ability to generate sufficient cash to pay off the securities issued by SPV.

(b) Synthetic Collateralized Debt Obligations: It is similar to Cash Flow CDOs but with the difference that instead of transferring ownerships of collateral to SPV (a separate legal entity), synthetic CDOs are structured in such a manner that credit risk is transferred by the originator without actual transfer of assets.

Normally the structure resembles the hedge funds where in the value of portfolio of CDO is dependent upon the value of collateralized instruments and market value of CDOs depends on the portfolio manager's ability to generate adequate cash and meeting the cash flow obligations (principal and interest) in timely manner.

While in cash CDO the collateral assets are moved away from Balance Sheet, in synthetic CDO there is no actual transfer of assets instead economic effect is transferred.

This effect of transfer economic risk is achieved by creating provision for Credit Default Swap (CDS) or by issue of Credit Linked Notes (CLN), a form of liability.

This structure is mainly used to hedge the risk rather than balance sheet funding. Further, for banks, this structure also allows the customer's relations to be unaffected. This was started mainly by banks who want to hedge the credit risk but not interested in taking administrative burden of sale of assets through securitization.

Technically, speaking synthetic CDO obtain regulatory capital relief benefits vis-à-vis cash CDOs. Further, they are more popular in European market due to the reason of less legal documentation requirements. Synthetic CDOs can also be categorized as follows:

(i) Unfunded: - Comprises only of a CDS.

(ii) Fully Funded: - Will be through issue of Credit Linked Notes (CLN).

(iii) Partially Funded: - Partially through issue of CLN and partially through CDS.

(c) Arbitrage CDOs: The issuer captures the spread between the return realized collateral underlying the CDO and cost of borrowing to purchase these collaterals. In addition to this issuer also collects the fee for the management of CDOs. This arbitrage arises due to acquisition of relatively high yielding securities with large spread from open market.

Q 48. What are various Risks involved in CDOs?

A. CDOs are structured products and just like other financial products are also subject to various types of Risk.

The main types of risk associated with investment in CDOs are as follows:

(a) Default Risk: - Also called 'credit risk', it emanates from the default of underlying party to the instruments. The prime sufferers of these types of risks are equity or junior tranche in the waterfall.

(b) Interest Rate Risk: - Also called Basis risk and mainly arises due to different basis of interest rates. For example, asset may be based on floating interest rate but the liability may be based on fixed interest rates. Though this type of risk is quite difficult to manage fully but commonly used techniques such as swaps, caps, floors, collars etc. can be used to mitigate the interest rate risk.

(c) Liquidity Risk: - Another major type of risk by which CDOs are affected is liquidity risks as there may be mismatch in coupon receipts and payments.

(d) Prepayment Risk: - This risk results from unscheduled or unexpected repayment of principal amount underlying the security. Generally, this risk arises in case assets are subject to fixed rate of interest and the debtors have an option to prepay. Since, in case of falling interest rates they may pay back the money.

(e) Reinvestment Risk: - This risk is generic in nature as the CDO manager may not find adequate opportunity to reinvest the proceeds when allowed for substitutions.

(f) Foreign Exchange Risk: - Sometimes CDOs are comprised of debts and loans from countries other than the country of issue. In such a case, in addition to above mentioned risks, CDOs are also subject to the foreign exchange rate risk.

Q 49. What are Real Options?

Real Options methodology is an approach to capital budgeting that relies on Option Pricing theory to evaluate projects. Insights from option-based analysis can improve estimates of project value and, therefore, has potential, in many instances to significantly enhance project management. However, Real options approach is

intended to supplement, and not replace, capital budgeting analyses based on standard Discounted Cash Flow (DCF) methodologies.

Q 50. What are Differences between Real Option & Financial Option? (Past Exam) (Important)

Before we further discuss the various aspects of Real Option it is important to first understand How Real Option is different from Financial Option which is as follows:

Basis	Financial Options	Real Options
Underlying	Have underlying assets that are normally traded in the market i.e. shares, stocks, bonds, commodity etc.	Have underlying the projects that are not traded in the market.
Pay-off	In most of the cases it is specified in the contracts and hence is fixed.	It is estimated from the project cash flows and hence can be varied.
Exercise Period	Mostly the period of these options is short and can go maximum upto 1 year.	The period of these options mostly starts from the end of 1st year and higher than the Financial Options.
Approach	Since these options are normally traded in the market they are "Priced".	Since these options are used to make decisions, they are "Valued".

Q 51. What are various types of options that may exist in a capital budgeting project?

Long call:

- Right to invest at some future date, at a certain price.
- Generally, any flexibility to invest, to enter a business, to expand a business.

Long put:

- Right to sell at some future date at a certain price.
- Right to abandon at some future date at zero or certain price.
- Generally, any flexibility to disinvest, to exit from a business.

Short call:

- Promise to sell if the counterparty wants to buy.
- Generally, any commitment to disinvest upon the action of another party.

Short put:

- Promise to buy if the counterparty wants to sell.
- Generally, any commitment to invest upon the action of another party.

Q 52. How are real options Valued?

A. The methods employed to valuation of real options are same as used in valuation of Financial Options. Broadly, following methods are employed for Valuation of Financial Options.

(a) Binomial Model

(b) Risk Neutral Method

(c) Black-Scholes Model

Q 53. What are various types of Real Options?

Following are broad type of Real Options:

Growth Options

Even if Some projects have a negative or insignificant NPV, managers may still be interested in accepting the project as it may enable companies to find considerable profitability and add value in future. ***This case of real option is like European Call Option.***

Some of the examples of such options are as follows:

- Investment in R&D activities
- Heavy expenditure on advertisement
- Initial investment in foreign market to expand business in future
- Acquiring making rights
- Acquisition of vacant plot with an intention to develop it in future.

The purposes of making such investments are as follows:

- Defining the competitive position of firm hence it is called strategic investments.
- Gaining knowledge about projects from profitability.
- Providing the manufacturing and making flexibility to the firm.

Abandonment Options:

Once funds have been committed in any Capital Budgeting project it cannot be reverted without incurring a heavy loss. However, in some cases due to change in economic conditions the firm may like to opt for abandoning the project without incurring further huge loses.

The option to abandon the project is like an ***American Put Option*** where option to abandon the project shall be exercised if value derived from project's assets is more than PV of continuing the project for one or more period.

Timing Options

In traditional capital budgeting the project can either be accepted or rejected, implying that this will be undertaken or forever not. However, in real life sometimes a third choice also arises i.e., delay the decision until later, i.e., option when to invest. Possible reasons for this delay may be availability of better information or ideas later. ***This case of real option is like American Call Option.***

Q.54 What are Commodity Derivatives? **(Important) (Past Exam)**

A. A commodity is a raw material or primary product that may be related to food, energy, metals, or any other property, is tradable and regularly used for human consumption directly or indirectly. It can be categorized as a kind of good that can be bought and sold freely in consideration for something else or money. Commodity trading is essentially part of every society, and it is an age-old concept. Formalized and organized form of commodity trading has grown in the last few decades.

Commodities constitute a major asset class like equities, fixed income instruments and money market instruments. Commodities are basically raw materials or primary products regularly used for consumption. The value or the price of commodity changes as per the demand supply situation in the commodity market. A commodity Derivative is the contract whose value is derived from the underlying commodity that is to be settled on a specific future date. The main purpose of commodity derivative contracts is to reduce risk arising out of future price uncertainty. Commodity derivatives were the first form of derivatives ever introduced and later the concept of derivatives was introduced in other securities and assets.

Major commodity exchanges in India are Multi Commodity Exchange (MCX) and National Commodity and Derivatives Exchange (NCDEX). Commodity derivatives available for trading through exchanges are bullion, Base metals like copper and zinc, energy, cereals, oil seeds, spices etc.

Q55. Who are the Participants of Commodity Derivative Market? **(Important)**

A. The commodity derivative market includes participants with different investment objectives and risk profiles. This allows the market to function effectively. The participants play different roles in the market by using the commodity futures contract. Hedgers, Speculators, Arbitragers and Retail investors are the participants in the Commodities Derivative Markets. Foreign Institutional Investors (FII's) and Non-Resident Indians (NRI's) are not permitted to participate in the Commodity Futures market in India.

Arbitragers are the ones who find price gaps in the commodity markets either in Spot market or Derivative market or both. They encash these differences by placing trades thus adding liquidity to markets.

Hedgers on the other hand are either producers or consumers who take a position in the market to lock their price risk.

Speculators are other big players in the commodity market. This segment of traders comes into the market with a price directional view and takes positions accordingly. Speculators have a choice of taking a position based either on fundamental news of the commodity or technical analysis of price movements.

Q56. What are the Factors that Influence Commodity pricing

A.

- Demand-Supply situation
- Government Trade Policies
- Global economic situation
- Currency Movements
- Geo-political tensions
- Market sentiments
- Investment Funds
- Weather dynamics
- Seasonal cycles

Q57. What are the Benefits of Trading in Commodity Derivatives?

A.

- Diversification of Portfolio
- Inflation protection
- Hedge against event risk
- Provides high liquidity.
- Trading on lower margin
- The commodity market is highly volatile. It experiences huge swings in prices.

Q58. What are Commodity Futures?

A. It is an agreement/contract between two parties to buy or sell an asset at a certain time in the future at a certain price. Future contracts are special types of forward contracts in the sense that the former are standardized exchange-traded contracts. Commodity Futures are available for trading in exchanges for participation by retail investors, corporates, hedgers.

Commodity futures price takes into consideration interest rate (r), Storage cost (S) and convenience yield (C) and time.

Commodity Futures Price = Spot (S_0) x $e^{(r+s-c)t}$

Q59. What are Commodity Options?

A. Options are of two types – calls and puts. Calls give the buyer the right but not the obligation to buy a given quantity of the underlying asset, at a given price on or before a given future date. Puts give the buyer the right, but not obligation to sell a given quantity of the underlying asset at a given price on or before a given date.

Q60. What are Commodity Swaps?

A. A commodity swap is a kind of derivative contract wherein two parties agree to swap cash flows depending on the cost of an underlying commodity. A commodity swap is typically used to protect against price fluctuations in the market concerning a commodity.

There are two types of commodity swaps: fixed-floating or commodity-for-interest.

Fixed-Floating Swaps

They are just like the fixed-floating swaps in the interest rate swap market with the exception that both indices are commodity-based indices.

Commodity-for-Interest Swaps

They are like the equity swap in which a total return on the commodity in question is exchanged for some money market rate (plus or minus a spread).

Q61. How are Commodity Swaps Valued?

A. Valuation of Commodity Swaps

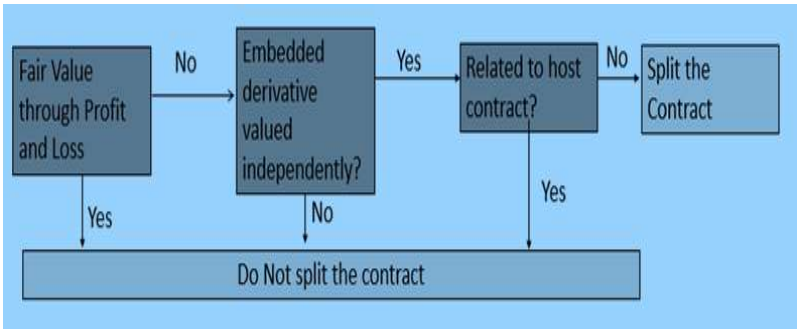
Commodity swaps are characterized by some peculiarities. These include the following factors.

- The cost of hedging
- The institutional structure of the commodity market
- The liquidity of the underlying commodity market
- Seasonality and its effects on the underlying commodity market
- The variability of the futures bid/offer spread
- Brokerage fees
- Credit risk
- Capital costs and administrative costs

Q62. What are Embedded Derivatives? **(Important) (Past Exam)**

A. Embedded Derivatives

An embedded derivative is a derivative instrument that is embedded in another contract -the host contract. The host contract might be a debt or equity instrument, a lease, an insurance contract or a sale or purchase contract. Derivatives require to be marked-to-market through the income statement, other than qualifying hedging instruments. This requirement on embedded derivatives is designed to ensure that mark-to-market through the income statement cannot be avoided by including -embedding -a derivative in another contract or financial instrument that is not marked-to market through the income statement.



Q63. Explain weather derivatives?

- Several businesses like airlines, juice manufacturing units and farmers are highly exposed to weather.
- To hedge Volumetric risk arising out of unfavourable weather patterns, a new class of financial instruments called **Weather Derivatives** have been introduced.
- A weather derivative has its underlying "asset", a weather measure like rainfall, temperature, humidity, wind speed, etc.
- The underlying of weather derivatives is represented by a weather measure, which influences the trading volume of goods.
- The primary objective of weather derivatives is to hedge volume risk, rather than price risk, that results from a change in the demand for goods due to a change in weather.
- The first weather transaction was executed in 1997 in in an OTC transaction by Aquila Energy Company
- The market was jump started during the warm Midwest/Northeast El Nino winter of 1997-1998, when the unusual higher temperatures led to companies protecting themselves from significant earnings decline. Since then, the market has rapidly expanded.
- Difference between Weather derivative & an insurance contract:
    - Insurance provides protection to extreme, low probability weather events, such as earthquakes, hurricanes, and floods, etc.
    - Derivatives can be used to protect the holder from all types of risks, including uncertainty in normal conditions that are much more likely to occur where less dramatic events can lead to huge losses.
- In a Weather derivative contract between a buyer and a seller, the seller of receives a premium from a buyer with the understanding that the seller will provide a monetary amount in case the buyer suffers any financial loss due to adverse weather conditions. In case no adverse weather condition occurs, then the seller makes a profit through the premium received.

Q63A. Elaborate on Issues in Pricing a weather derivative contract.

A. Data: - The reliability of data is a big challenge as the availability of data quite differs from one country to another and even agency to agency within a country.

Forecasting of weather: - Though various models can be used to make short term and long- term predictions about evolving weather conditions but it is difficult to predict the future weather behaviour as it is governed by various dynamic factors. Generally, forecasts address seasonal levels but not the daily levels of temperature.

Temperature Modelling: - Temperature is one of the important underlying for weather derivatives. The temperature normally remains quite constant across different months in a year. Hence, there is no such Model that can claim perfection and universality.

Q64. What are Electricity Derivatives?

A. Spot electricity prices are volatile, due to
- smaller market size
- dynamic factors such as
- change in fuel supply positions.
- weather conditions
- transmission congestion
- variation in RE generation, and
- physical attributes of production and distribution

Hedging instruments that reduces price risk exposures for market participants i.e., generators, buyers and load serving entities are required.

Derivative contracts linked with spot electricity prices as underlying can help market participants to hedge from price risk variations.

This will help the buyer to pay a fixed price irrespective of variation in spot electricity prices as variations are absorbed by derivative instruments.

Like other derivatives the vanilla forms of electricity derivatives are:

(i) forwards,

(ii) futures, and

(iii) swaps.

Power contracts also play the primary roles in offering future price discovery and price certainty to generators, distributing companies and other buyers.

Q65. Elaborate on Electricity Forwards

A. Electricity Forward contracts represent the obligation to buy or sell a fixed amount of electricity at a pre-specified contract price, known as the forward price, at a certain time in the future (called maturity or expiration time). Forwards are custom-tailored supply contracts between a buyer and a seller, where the buyer is obligated to take power and the seller is obligated to supply.

Payoff of an electricity Forward Contract = (ST - F); where ST is the electricity spot price at time T. Here the underlying electricity is a different commodity at different times. The settlement price ST is usually calculated based on the average price of electricity over the delivery period at the maturity day "T".

Q66. Elaborate on Electricity Futures

A. Electricity Futures are contracts for the delivery of a certain quantity of electricity at a specified price and a specified time in the future, sellers can sell a proportion of their production in the future market, while consumers can buy a specific amount of the power they need.

Electricity futures contracts are standardized contracts in terms of trading locations, transaction requirements and settlement procedures. The delivery quantity specified in electricity futures contracts is often significantly smaller than that in forward contracts.

Electricity futures are traded on the organized exchanges and electricity forwards are usually traded over the counter. As a result, the electricity futures prices more transparent than forward prices being reflective of higher market consensus.

Most electricity futures contracts are settled by financial payments rather than physical delivery resulting in lowering of the transaction costs.

In addition, credit risks and monitoring costs in trading futures are much lower than those in trading forwards since exchanges implement strict margin requirements to ensure the financial performance of all trading parties.

Gains and losses of Electricity Futures are paid out daily, as opposed to forward contract being cumulated and paid out in a lump sum at maturity time thus reduces the credit risks.

As compared to Electricity Forwards, the advantages of Electricity Futures lie in market consensus, price transparency, trading liquidity, and reduced transaction and monitoring costs though there are limitations of various basis risks associated with the rigidity in futures specification and the limited transaction quantities specified in the contracts.

Q.67 Elaborate on Electricity Swaps

A. Electricity Swaps are financial contracts that enable their holders to pay a fixed price for underlying electricity, regardless of the floating electricity price, or vice versa, over the contracted time.

They are typically established for a fixed quantity of power referenced to a variable spot price at either a generators or a consumer's location.

Electricity Swaps are widely used in providing short-to-medium term price certainty for up to a couple of years.

Like financial swaps, Electricity Swap can be considered as a strip of electricity forwards with multiple settlement dates and identical forward prices for each settlement.

An Electricity Locational Basis Swap is one, wherein the holder agrees to either pay or receive the difference between a specified futures contract price and another locational spot price for a fixed constant cash flow at the time of the transaction.

These swaps are used to lock-in a fixed price at a geographic location that is different from the delivery point of a futures contract and hence are effective financial instruments for hedging the risk-based on the price difference between power prices at two different physical locations.

Q.68 Lessons from Derivative Mishaps

Following are some of the important lessons can be learnt from the above-mentioned case studies of Derivative Mishaps.

A. Don't buy any derivative product that you don't understand

This is an important lesson for non-financial corporation not to undertake a trade or derivative product that they do not understand. As apparent in the case of Orange County, treasurer Robert Citron speculated on derivative instruments even though he had no financial background. Similar things happened in BT's case where both P&G and Gibson Greetings were misguided.

The best way to avoid such loss is to value the instrument in house because outside persons can misguide the corporation about the potential dangers.

B. Due diligence before making Treasury Department as a Profit Centre

Though the main objective of establishing a Treasury Department is to reduce financing costs and manage risk optimally. But it has been seen that though initially Treasury Department made limited profits from treasury activities later started taking more risks in anticipation of higher profit. As mentioned in case study of Orange County the treasurer Citron with initial profit from yield curve play strategy leveraged its position and led to bankruptcy. The best way to avoid this situation is to avoid linking the treasurer's salary with the profit he/she makes for the organization.

C. Specify the Risk Limits

Proper monitoring is prerequisite for the trader to ensure that he/she should switch from arbitrageur to speculator. Baring Bank's case is a leading example for the bankruptcy of same bank as his positions remained unmonitored and unquestionable by the management.

The best way to avoid the situation of overtrading is to limit the sizes positions that can be taken by a trader, and it should be accurately reported from risk perspective.

The management should ensure that the limits specified should be strictly obeyed and even daily reports of various positions taken by each trader (though a star performer) should be obtained and scrutinized before the things goes out of control.

D. *Separation of Front, Middle and Back Offices*

The three offices though are interlinked but they discharge separate functions. Accordingly, there should be a firewall in the functioning of these offices i.e. person of one office should not have the access to the functioning of other office. Barings bank's case is a classic example where Nick Leeson carried out manipulations in back office (which was under his control also) and hid the losses in error account.

To ensure that these three offices work independently it is essential that role and functions of each office should be clearly defined and followed.

E. *Ensure that a hedger should not become a speculator*

In most of the cases discussed above hedgers/arbitrageur have become speculators and leveraged their position.

To avoid this situation, it is essential that clear cut risk limits should be defined. Further before entering any trading strategy proper risk analysis should be carried out and if proposed strategy is crossing the limits of Risk Appetite of the company it should be avoided.

F. *Carry out Stress Test, Scenario Analysis etc.*

As mentioned in case of BT where Gibson Greetings was of belief that the interest rates shall remain lower and to some extent ignored the possibility of increasing of interest rates by 1%. But it happened and ultimately Gibson Greetings faced a huge loss.

To counter this type of unpredictable situation it is necessary that VAR analysis should always be followed by Scenario Analysis because as tendency a human being normally can anticipate two to three scenarios. It will be better to refer the data of at least 10 to 20 years to anticipate a Black Swan event.

Further even Simulation Test can be applied to analyze the results in various possible situations.

FOREX & RISK MANAGEMENT 36Q|1PE

Q.1 Explain the Difference between Direct and Indirect Quotes

A. Currency quotation can be either a direct quotation or an indirect quotation, **depending upon home currency of the person concerned.**

Direct quote is units of home currency per one unit of foreign currency.

Quote $ 1 = ₹ 75 is a direct quote for an Indian resident i.e., how much will one unit of foreign currency ($), cost in terms of home currency (₹).

Indirect quote is the foreign currency price per one unit of home currency.

Quote ₹ 1 = $ 0.0133 is an indirect quote for an Indian resident. ($\frac{\$\,1}{₹\,75}$ = $0. 0.0133333….) i.e., how much will one unit of home currency (₹), cost in terms of foreign currency ($).

Direct and indirect quotes are reciprocals of each other. Thus, direct quote for an Indian resident will be an indirect quote for US resident. This can be mathematically expressed as:

$$\text{Direct Quote} = \frac{1}{\text{Indirect Quote}}$$

Q2. What does the term PIPS stand for?

A. PIP stands for percentage in points or price interest points. It is the smallest unit by which exchange rate for a currency pair can move.

Most major currency pairs (except Yen) are priced to 4 decimal places.

So, PIP represents last decimal point which is equivalent to 1/100 of 1% i.e. one pip = 0.0001.

E.g. USD/INR quote when changes from ₹ 75.1224 to ₹ 75.1234, is said to have changed by 10 pips.

Q3. What are Bid and Ask?

A. These are terms used with reference to foreign exchange dealer.

Bid is the the price at which the dealer is willing to **buy** another currency.

Ask (or Offer) is the the price at which the dealer is willing to **sell** another currency.

E.g., a dealer may quote USD INR exchange rate as ₹ 75.1234 - 75.1244. That means dealer is willing to buy dollars at ₹ 75.1234/$ 1 (sell rupees and buy dollars), while dealer will sell dollar at ₹ 75.1244/$ 1 (buy rupees and sell dollars).

Bid < **Ask** as dealers make money by buying at the bid and selling at the ask price.

Difference between the bid and the ask is called **spread.**

$$\% \text{ Spread} = \frac{\text{Ask} - \text{Bid}}{\text{Bid}} \text{ x } 100$$

Q4. What are Cross Rates?

A. It is exchange rate which is expressed by a pair of currency in which **none of the currencies is official currency of the country** in which it is quoted.

E.g., if exchange rate between British Pound and US dollar is quoted in India, then it is a cross rate for an Indian, since none of the currencies of this pair is of ₹.

As per market convention, exchange rates expressed by any currency pair that **does not involve US dollar** are called cross rates.

This means exchange rate of British pound and Euro will be called a cross rate irrespective of country in which it is quoted as it does not have US dollar as one of the currencies.

Cross Rates are relevant when quote between a currency pair is not available. E.g., Quote between Indian Rupee (₹) and South African Rand (ZAR), if not available can be calculated from given quotes of USD / INR and USD / ZAR.

Q5. What is Tick size?

A. Tick size is the smallest unit by which quote changes in the market, as set by market or exchange.

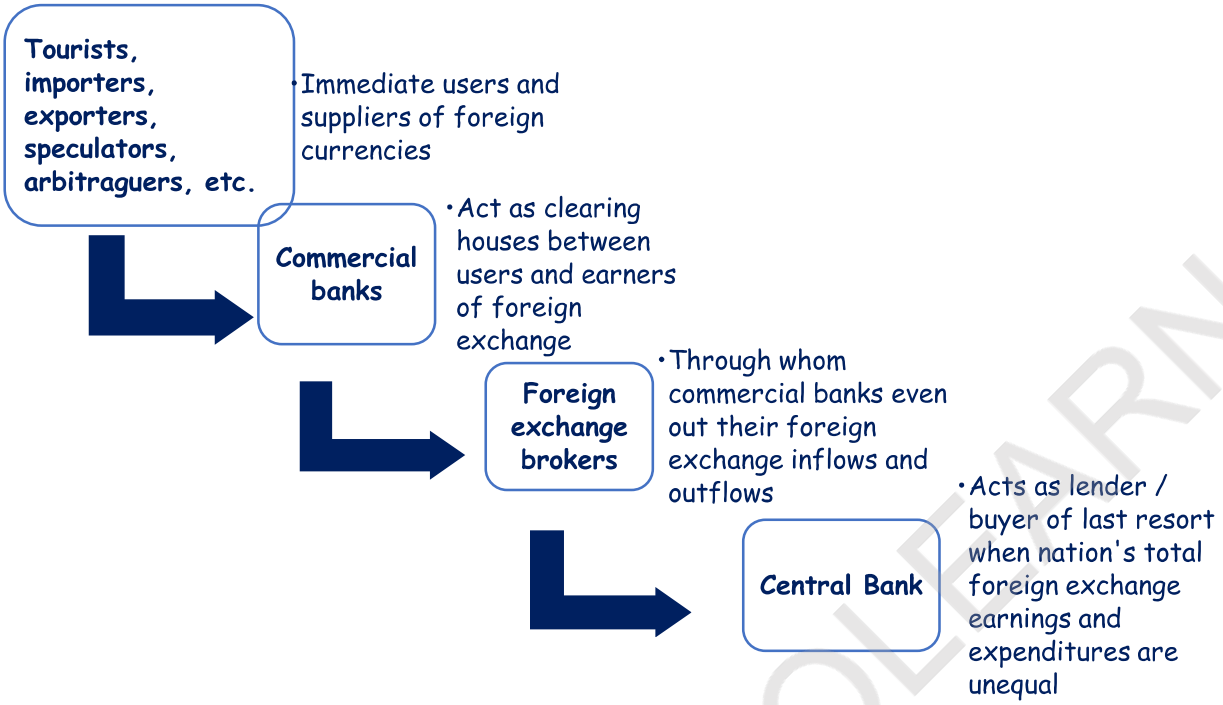
Example: NSE Currency Derivatives market has tick size of 0.25 paisa or INR 0.0025 or 25 pips.

It means currency quote can change in the multiples of 0.25 paisa only.

So, if USD INR is currently quoted at ₹ 75.1225 it may change to say ₹ 75.1250 / 75.1275 / 75.1200 / 75.1175 but not to say 75.1224 or 75.1230

Q6. Who are the participants in the Foreign Exchange Market? **(Important)**

A. Four levels of transactor or participants can be identified in foreign exchange markets:



Participants in foreign exchange market can be categorised as follows:

Non-bank entities: MNCs, firms, individuals exchange currencies to meet their import or export commitments. There may be an exchange for travel and other needs too.

Banks: Exchange currencies as per the requirements of clients.

Speculators: Commercial and investment banks, MNCs, hedge funds, firms, individuals buy and sell currencies with a view to hedge their risk or earn profit due to fluctuations in the exchange rates.

Arbitrageurs: They make profit from price differential existing in two markets by simultaneously operating in two different markets.

Governments: Governments participate in foreign exchange market through the central banks. They constantly monitor the market and help in stabilizing the exchange rates.

Q7. Distinguish between Spot & Forward markets **(Important)**

A. Foreign exchange market includes both the spot and forward market.

In the spot market, foreign exchange transaction takes place at the spot rate – the rate paid for delivery within two business days as Indian market operates on T+2 business cycle. The rate quoted for settlement on the same day is known as Cash Rate and rate quoted and transacted for the settlement on next day is known as Tom rate.

In the Forward Market, buyers and sellers of currencies agree to deliver the currency at some future date. They agree to transact a specific amount of currency at a specific rate at a specified future date. The forward rate is not the same as the spot exchange rate that will prevail in future. The actual spot rate on that day may be lower or higher than the forward rate agreed today.

Q8. Elaborate on the Role of Swift in Foreign Exchange

Foreign Exchange Dealers/Traders use a network of communication to carry out their business transactions called SWIFT (Society for Worldwide Interbank Financial Telecommunication) which is purely a messaging system. It was founded in 1973 and headquartered at La Hulpe, Belgium, near Brussels. It is a non-profit organization. It has offices around the world. It employs a dedicated computer network system for communicating fund transfers. Since each country has their own symbol to communicate their currency, to avoid miscommunication SWIFT has assigned codes to currencies of each country. These codes are 3 lettered codes and are used internationally in cross border communications. Some of the common codes used in communication are as follows:

Country/ Region	Currency	Code
USA	US Dollar	USD
UK	Pound	GBP
China	Chinese Renminbi/Yuan	CNY
Canada	Canadian Dollar	CAD
Australia	Australian Dollar	AUD
Hong Kong	Hong Kong Dollar	HKD
India	Indian Rupee	INR
Japan	Japanese Yen	JPY
New Zealand	New Zealand Dollar	NZD
Singapore	Singapore Dollar	SGD
Sweden	Swedish Krona	SEK
Switzerland	Swiss Franc	CHF
Europe	Euro	EUR

SWIFT uses common language for financial transactions and uses a centralized data processing system. It is important to note that SWIFT is only a standardized communication system and not a transaction settlement system.

The SWIFT connects various financial institutions in more than 200 countries. The SWIFT plays an important role in Foreign Exchange dealings because of the following reasons:

- In addition to validation statements and documentation it is a form of quick settlement as messaging takes place within seconds.
- Because of security and reliability helps to reduce Operational Risk.
- Since it enables its customers to standardise transaction it brings operational efficiencies and reduced costs.
- It also ensures full backup and recovery system.
- Acts as a catalyst that brings financial agencies to work together in a collaborative manner for mutual interest.

Q9. What is a Payment Gateways?

A Payment Gateway is a virtual mode equivalent to physical mode of transfer of cash that authenticates and routes payment details in an extremely secure environment. The services ranges from collecting and sending payments to banks or to e-commerce sites for carrying out commercial transactions.

The Payment Gateway functions in essence as an "encrypted" channel, which securely passes transaction details from the buyer's Personal Computer (PC)/ Mobile Phone or Tablet to banks for authorization and approval. It involves the transfer of data in an encrypted manner from entry point to the Point of Sale (POS)/ and after approval from banker of Debit/ Credit Cards it completes the transaction/ order along with verification vide a reference number.

Q 10. What are the advantages of Payment Gateways?

A Payment Gateway provides multiple benefits such as:

- 24x7x365 convenience.
- Real time authorisation of credit/debit cards.
- Rapid, efficient transaction processing.
- Multiple payment options.
- Minimising risk by encrypting transactions and verifying other information.
- Flexible, powerful real-time reports generation.
- Facility for customer refund.
- Merchants can get rid of operating complex software and maintaining huge data.
- CA (Certifying Authority) authenticated secure servers.
- Collection of bulk data in a cost-efficient manner, with the additional benefit of being checked for card validity.
- Provision for multiple host interfaces.
- Comprehensive, simple administrative control.
- Gaining customers' support and merchants' trust.

Q 11. What are the dis-advantages of Payment Gateways?

A. Challenges that are hampering the growth of payment gateways such as:

(a) Payments may not happen at all simply because the customer may not have an account with the banks supporting the payment gateway.

(b) Some payment gateways have only limited number of banks.

(c) There are problems of reliability, delivery, and limited payment avenues and general lack of trust among customers, and doubts about the service provider.

Q 12. What are International Payment Gateways?

- These offers global/multi-currency payments, as well as an interface with multiple languages.
- Chances of customer conversion increases when a prospective customer sees the price of a product or service in their currency.
- International Payment Gateways let merchants offer their international customers the ability to pay in the currency they know best – their own.
- These Payment gateways not only accelerate but also make international payments and transactions easy.
- Customers can easily benchmark prices if it is quoted in their own currency. If anybody travels to the US or China or the UK or any other country, any expenditure is preceded by a conversion to the Indian rupee.

Q13. What is a Letter of Credit (LC)?

A. Letter of Credit, popularly known as LC is a document issued by a bank to another bank (especially one in a different country) to serve as **a guarantee for payments** made to a specified person / entity under specified conditions.

When an exporter exports goods or services, it generally asks the importer to provide some guarantee in order to secure the payment. The importer in such cases, will request a bank in its own country (issuer bank) to open this letter of credit in favour of exporter (beneficiary) with exporter's bank (beneficiary bank).

Issuer bank will charge some fee from importer for providing this facility.

Q14. What are Usance & Sight LCs – Distinguish between them?

A. A Usance LC is for specific period where due date for payment is fixed or is calculated from the date of shipment or date of bill of lading. Under this LC, payment is made on due date / mentioned period from date of shipment and normal transit period* is not applicable.

In an LC due for payment on sight, the payment is due upon presentment and the Payment happens at end of normal transit period.

As per FEDAI Rules, Normal Transit Period for Bill drawn on DP/At Sight Basis is as follows:

- Bill in Foreign Currencies – 25 days
- Bills in Rupees not under Letter of Credit – 20 days

Normal transit period means the Average period normally involved from date of negotiation/ purchase/ discount till receipt of bill proceeds. It is not to be confused with time taken for arrival of the goods at destination.

Q15. What is the concept of Covered Interest Arbitrage (Important)

A. Arbitrage is simultaneous buying and selling of assets in different market to take advantage of price / interest differential.

When interest rates of a country are high, its currency will depreciate to offset interest gains. But sometimes, forward rates prevalent in the market are such that there arises an opportunity to cover this fall in currency i.e., an investor while investing in high yielding-currency may simultaneously hedge currency risk and make arbitrage gains.

Thus, covered interest arbitrage is a strategy of using favourable interest rate differentials to invest in higher-yielding currency, and hedging exchange risk through forward contract.

Q16. What are the Factors affecting Exchange Rates?

A. The major factors that affect the foreign exchange of any country are inflation rate and interest rate. The other factors that affect foreign exchange rate are as follows:

(a) *Deficit/Surplus on Capital/Current Account:* - A country's Deficit/Surplus on both Capital and Current Account plays a big role in determination of its exchange rate. While deficit in Current Account leads to depreciation of currency, the surplus results in appreciation of home currency.
In case of Capital Account if net inflow is positive then home currency is appreciated and if it is negative then home currency depreciates because of oversupply.

(b) *Trade Barriers: -* Generally with the increase in trade barriers or quota restrictions for import of goods from any country the value of own currency appreciates in the long run. For example, if India puts some restriction on import from China for any goods, then demand for Indian goods will be increased and will be sold for higher price.

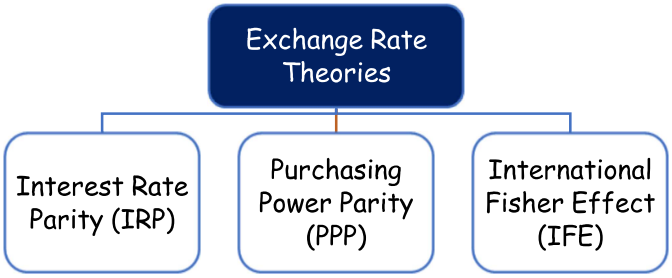
(c) *Intervention by Central Bank: -* Sometimes to regulate the prices of foreign exchange the Central Bank of or Monetary Authorities of country intervenes by selling or buying foreign exchange in/from the Market.

(d) *Government Controls: -* Government Controls such as restrictions on FDI, FPI or repatriation of Foreign Exchange also affects the foreign exchange rates.

(e) *Expectations (Band Wagon Effect):* - Sometimes speculations by the speculators on any currency can have a substantial impact on exchange rate. When a dominant speculator in Foreign Exchange market expects a fall in value of any currency and he starts taking short position in the same currency, other speculators may also follow the same path. This will ultimately result in fall in the value of same currency.

Q17. Explain various theories of Exchange Rate Determination (Important)

A. There are three theories which talk about how exchange rates move or are determined. These are:



Interest Rate Parity (IRP)

This theory states that '**size of forward premium** (or discount) should be equal to the **interest rate differential** between the two countries of concern'.

When interest rate parity exists, covered interest arbitrage (where foreign exchange risk is covered) is not feasible because any interest rate advantage in the foreign country will be offset by discount on the forward rate.

Covered Interest Rate Parity equation gives Forward Rate as :

$$\text{Forward Rate} = \text{Current spot rate (Dir Quote)} \times \frac{(1 + \text{Current domestic interest rate})}{(1 + \text{Interest rate of foreign market})}$$

Uncovered Interest Rate Parity equation gives Expected Future Spot Rate as:

$$\text{Expected Future Spot Rate} = \text{Current spot rate (Dir Quote)} \times \frac{(1 + \text{Current domestic interest rate})}{(1 + \text{Interest rate of foreign market})}$$

Purchasing Power Parity (PPP)

Focuses on 'inflation – exchange rate' relationship. This theory in **absolute form** states that exchange rate between 2 currencies shall be such that prices of similar products in 2 different countries, after adjusting for transportation costs, tariffs, quotas etc. should be equal.

As per this form –

$$\text{Spot Rate} = \alpha \times \frac{\text{Price level in domestic market}}{\text{Price level in foreign market}}$$

α = Sectoral constant for adjustment

Relative form of this theory tries to overcome problems of market imperfections and consumption patterns between different countries.

As per this form –

$$\text{Expected Spot Rate} = \text{Current Spot Rate (Dir Quote)} \times \frac{1 + \text{Domestic Inflation Rate}}{1 + \text{Foreign Inflation Rate}}$$

International Fisher Effect (IFE)

This theory uses interest rate rather than inflation rate differentials to explain why exchange rates change over time and is closely related to Purchasing Power Parity because interest rates are often highly correlated with inflation rates.

According to International Fisher Effect, 'nominal risk-free interest rates contain a real rate of return and anticipated inflation'. This means if investors of all countries require the same real return, interest rate differentials between countries may be the result of differential in expected inflation.

The IFE states that if there are no barriers to capital flows, the investment will flow in such a manner that the real rate of return on investment will equalize.

The IFE is reflected by:

$$\frac{\text{Expected Spot Rate}}{\text{Current Spot Rate}} = \frac{1 + \text{Domestic interest rate}}{1 + \text{Interest rate in Foreign market}}$$

Q18. Compare IRP, PPP, and IFE theories. (Important)

A. Exchange Rate theories explain about determination of exchange rates. Yet, they differ in their implications.

- IRP focuses on why the forward rate differs from spot rate and on the degree of difference that should exist. This relates to a specific point of time.
- PPP theory suggests that the spot rate will change in accordance with inflation differentials.
- IFE theory suggests that it will change in accordance with interest rate differentials.
- PPP is related to IFE because inflation differentials influence the nominal interest rate differentials between two countries.

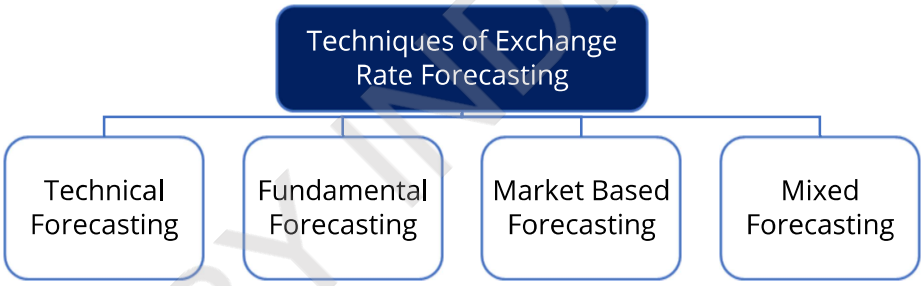
Theory	Key Variables	Basis	Overview
Interest Rate Parity (IRP)	Forward rate premium (or discount)	Interest rate differential	Forward rate of one currency will contain a premium (or discount) that is determined by differential in interest rates between 2 countries.
Purchasing Power Parity (PPP)	Percentage change in spot exchange rate	Inflation rate differential	Spot rate of one currency w.r.t. another will change in reaction to differential in inflation rates between 2 countries. The

			purchasing power for consumers when purchasing goods in own country will be similar to their purchasing power when importing goods.
International Fisher Effect (IFE)	Percentage change in spot exchange rate	Interest rate differential	Spot rate of one currency w.r.t. another will change in accordance with differential in interest rates between 2 countries. Return on uncovered foreign money market securities will on average be no higher than return on domestic money market securities from the perspective of investors in the home country.

Q19. What are the various methods of exchange rate forecasting?

A. Foreign Exchange Market has evolved greatly over a period. Companies, today need to do exchange rate forecasting for taking decisions regarding hedging, short-term financing, short term investment, capital budgeting, earnings assessments, and long-term financing.

There are numerous methods available for forecasting exchange rates. They can be categorised into:



Technical Forecasting

- Uses historical data to predict future values. E.g. Time series models.
- Useful for predicting day-to-day movements.
- Limited use to MNCs – as doesn't provide point or range estimates.

Fundamental Forecasting

- Based on fundamental relationships between economic variables and exchange rates.
- E.g., subjective assessments, quantitative measurements based on regression models and sensitivity analyses.

Limited by –

- uncertain timing of impact of different factors
- need to forecast factors having immediate impact
- omission of factors, not easily quantifiable
- changes in sensitivity of currency movements to each factor over time

Market-Based Forecasting

- Uses market indicators to develop forecasts.
- Current spot/forward rates are often used, as speculators ensure current rates reflect market expectation of future exchange rate.

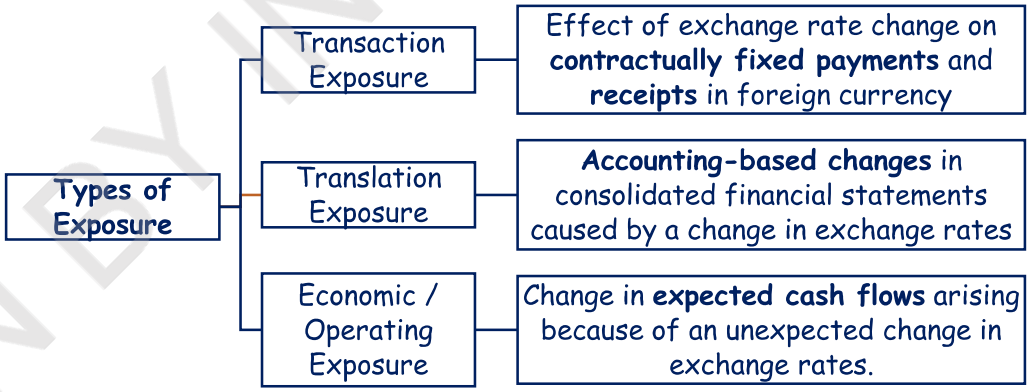
Mixed Forecasting

- Combination of forecasting techniques.
- Actual forecast is weighted average of various forecasts developed.

Q20. What are various types of Foreign Exchange Exposure?

A.

- Exposure is set of cash flows whose magnitude is not certain now.
- It is a result of possession of assets & liabilities and transactions denominated in foreign currency.
- Magnitude depends on the value of variables such as Foreign Exchange rates and Interest rates.
- An exporter who sells his product in foreign currency has the risk that if the value of that foreign currency falls then the revenues in the exporter's home currency will be lower.
- An importer who buys goods priced in foreign currency has the risk that the foreign currency will appreciate thereby making the local currency cost greater than expected.



Q21. What are the Effects of Devaluation / Revaluation on Company's Economic Exposure (Cash inflow)

A.

Variable	Revaluation impact	Devaluation impact
Company's export in foreign currency	Decrease	Increase
Interest payments from foreign investments	Decrease	Increase
Company's export in local currency	Decrease	Increase

Local sale, relative to foreign competition in local currency	Decrease	Increase

Devaluation	•Deliberate downward adjustment in official exchange rate •Ideally, done to liberalise exchange rate regime
Revaluation	•Upward adjustment to country's official exchange rate •Exports become uncompetitive & imports become competitive

Q22. What are the Effects of Local Currency Fluctuations on Company's Economic Exposure (Cash outflow)?

A.

Variable	Revaluation impact	Devaluation impact
Company's import of material	Decrease	Increase
Interest on foreign debt	Decrease	Increase
Company's export in local currency	Decrease	Increase

Q.23 Why is foreign exchange risk management Important?

(i) Protection against volatility: Exchange rates are highly volatile and can change rapidly, which can result in significant losses for a business. Foreign exchange risk management helps to protect against this volatility by allowing businesses to lock in exchange rates in advance, providing greater stability and certainty in financial planning.

(ii) Cost reduction: Effective foreign exchange risk management can help businesses reduce costs associated with foreign transactions. By minimizing currency exchange rate losses and reducing the need for hedging, businesses can save significant amounts of money in the long run.

(iii) Competitive advantage: Companies that effectively manage their foreign exchange risks can gain a competitive advantage over their competitors. They can offer more competitive prices and more attractive payment terms, which can help to attract and retain customers.

(iv) Improved cash flow: Foreign exchange risk management can also help businesses to improve their cash flow by providing greater visibility and predictability in their international transactions. This can help businesses to better manage their cash flow and ensure that they have sufficient funds to meet their obligations.

(v) Compliance with regulations: Many countries have regulations in place that require businesses to manage their foreign exchange risks. Failure to comply with these regulations can result in significant fines and penalties. Effective foreign exchange risk

management can help businesses to stay in compliance with these regulations and avoid potential legal issues.

Foreign exchange risk management is critical for businesses that engage in international transactions. It helps to protect against volatility, reduce costs, gain a competitive advantage, improve cash flow, and ensure compliance with regulations. By managing foreign exchange risks effectively, businesses can achieve greater financial stability and success in the global marketplace.

Q24. What are the advantages available to exporters for hedging their exposure?

A. FCNR B & PCFC Loans are used by exporters to hedge against export receivables.

1. PCFC is available to exporters for exporting their goods in Foreign Currencies. This product is available at cheaper rate compared to other Domestic Currency rates.
2. Secondly by availing PCFC, one can hedge foreign currency transaction risk against exports receivables by settling exports collection against PCFC loans outstanding.

Q25. What is an Exchange Earners' Foreign Currency Account – EEFC?

A. It is an Account maintained in foreign currency with Authorised Dealer Category - I bank i.e. bank authorized to deal in foreign exchange.

It is a facility provided to the foreign exchange earners, including exporters, to credit 100% of their foreign exchange earnings to the account, so that the account holders do not have to convert foreign exchange into ₹ and vice versa, thereby minimizing the transaction costs.

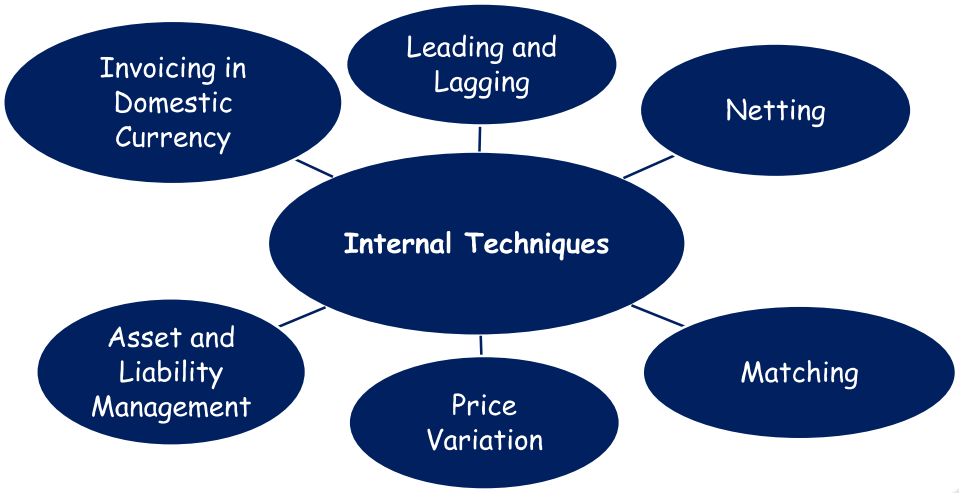
It is opened in the form of a current account. No interest is payable on EEFC accounts.

Q26. What are various Internal Techniques of Hedging Currency Risk? **(Important)**

A. **Hedging** is taking a position in one market to offset and balance against the risk adopted by assuming a position in a contrary or opposing market or investment. **To reduce foreign exchange risk, range of hedging techniques are available** that can be divided into: Internal and External Techniques.

Internal Techniques

These techniques explicitly do not involve any transaction costs and can be used to offset the exposure completely or partially. These are further classified as:



Invoicing in Domestic Currency

- Trading in a foreign currency gives rise to transaction exposure.
- Sellers usually wish to sell in their own currency but buyers' preferences may be for other currencies.
- Many markets, such as oil or aluminium, require that sales be made in same currency as that quoted by major competitors.
- Seller can invoice in domestic currency, subject to its bargaining power and product/service differentiation.

Leading and Lagging

- Leading and Lagging refer to adjustments at the time of payments in foreign currencies.
- **Leading** is payment before due date while lagging is **delaying payment** post the due date.
- These are aimed at taking advantage of expected devaluation and /or revaluation of relevant currencies.
- E.g., an India company has to make a payment denominated in US $ after 3 months. If after a month, it is expected that ₹ will significantly depreciate, company may make advance payment such that it will have to part with less ₹ to buy US $ for purposes of making payment. This strategy is Leading – early payment.

Netting

- Netting involves associated companies, which trade with each other. Under this, these companies settle inter-affiliate owings for net amount only. i.e., gross intra-group trade, receivables and payables are netted out.
- **Bilateral netting** is the simplest form of netting which involves two companies. These companies net out their own individual positions with each other and doesn't involve net positions of other group companies.
- Netting **reduces banking costs** and increases central control of inter company settlements.
- Reduced number and amount of payments result in **savings** in terms of buy/sell spreads in the spot and forward markets and reduced bank charges.

Matching

- Netting and Matching are frequently used interchangeably, but there are some distinctions.
- Netting is applied to potential flows within a group of companies whereas matching can be applied to both intra-group and to third-party balancing.
- **Under Matching,** company matches its foreign currency inflows with its foreign currency outflows in respect of **amount** and **approximate timing**.
- **Receipts in a particular currency are used to make payments in that currency.** Company then, taps foreign exchange markets only for the unmatched portion of foreign currency cash flows.
- The prerequisite for a matching operation is a two-way cash flow in the same foreign currency.
- **Parallel matching** is achieved when receipt and payment are in different currencies but these currencies are expected to move closely together, near enough in parallel.
- Both Netting and Matching presuppose that there are enabling Exchange Control regulations. But that might not be the case always. E.g., an MNC subsidiary in India cannot net its receivables and payables from/to its associated entities. Receivables have to be received separately and payables have to be paid separately.

Price Variation

- Price variation involves increasing selling prices to counter the adverse effects of exchange rate change.
- This may also be done in case of inter-company trade where companies arbitrarily make inter-company sales of goods and services at a price which is higher or lower than the fair price i.e., arm's length price.
- To counter this, taxation authorities, customs and excise departments require that Transfer pricing and exchange control regulations should be followed.

Asset and Liability Management

- This involves aggressive and defensive approaches.
- In the aggressive approach, firm simply increases exposed cash inflows denominated in currencies expected to be strong or increases exposure to cash outflows denominated in weak currencies.
- Defensive approach involves matching cash inflows and outflows according to their currency of denomination, irrespective of whether they are in strong or weak currencies.

Q27. What are various External Techniques of Hedging Currency Risk? / Explain Money Market Hedging **(Important) (Past Exam)**

A. External Techniques

This category of techniques for hedging currency risk involves use of various financial products which are categorised as:

Money Market Hedging

Money market hedge is an agreement to exchange a certain amount of one currency for a fixed amount of another currency, at a particular date.

E.g., a company expects to receive US$ 1 million in six months. It may create an agreement now i.e., today to exchange US$ 1 million for ₹ at roughly the current exchange rate. Thus, if US$ dropped in value by the time company receives the payment, it would still be able to exchange payment for original quantity of U.S. dollars specified.

Advantages	Disadvantages
○ Fixes the future rate, thus eliminating downside risk exposure. ○ Flexibility about the amount to be covered. ○ Money market hedges may be feasible as a way of hedging for currencies where forward contracts are not available.	○ More complicated to organise than a forward contract. ○ Fixes the future rate – no opportunity to benefit from favourable movements in exchange rates.

Derivative Instruments

- Derivatives transaction is a bilateral contract or payment exchange agreement whose value is derived from the value of an underlying asset, reference rate or index.
- These cover a broad range of underlying base - interest rates, exchange rates, commodities, equities and other indices.
- In addition to privately negotiated, global transactions, derivatives include standardized futures and options on futures that are actively traded on organized exchanges and securities such as call warrants.
- Transaction risk can be hedged using a range of financial derivatives products which include: Forwards, futures, options, swaps, etc.

Q28. What are Differences between Forwards and Futures Contracts? **(Important)**

A. Forwards vs Futures

Basis	Forward Contract	Futures Contract
Amount	Flexible	Standard amount
Maturity	Any valid business date agreed to by 2 parties	Standard date: Such as last Thursday of every month
Furthest maturity date	Any as parties decide	Limit: say 12 months
Currencies traded	All currencies	Major currency pairs
Cross rates	Available in one contract; Multiple contracts avoided	Usually requires two contracts

Market-place	Global network	Regular markets – futures market and exchanges
Price fluctuations	No daily limit in many currencies	Daily price limit set by exchange
Risk	Depends on counter party	Minimal due to margin requirements
Honouring of contract	By taking and giving delivery	Mostly by a reverse transaction
Cash flow	None until maturity date	Initial margin + ongoing variation margin (market to market rate) + final payment on maturity date
Trading hours	24 hours a day	4 – 8 hours trading sessions

Q29. What are the differences between Currency Options and Futures?

Options	**Futures***
Right, no obligation – only seller is obliged to perform	Both the parties are obliged to perform
For Option buyer, loss is restricted (premium paid), Gain is unlimited	For Futures Buyer, Loss is restricted to agreed price, Gain is unlimited
For Option Seller, in case of CALL option: Unlimited potential loss PUT Option: Loss restricted to strike price	For Futures Seller, Unlimited potential loss, Gain is limited to agreed price
Premium is paid by buyer to seller at inception of contract	No premium is paid by any party
An American option contract can be exercised any time during its period by the buyer	Marked to market on daily basis, settled only on Maturity Date

*Same differences also apply to Forward contracts.

Q30. Compare how Gain and Losses in are computed in Different Circumstances for Options and Futures

A.

Price Movement	**Type of position held**					
	Call Buyer	**Call Seller**	**Put Buyer**	**Put Seller**	**Long Futures**	**Short Futures**
Price rises	Unlimited gain	Unlimited Loss	Limited loss	Limited gain	Unlimited gain	Unlimited loss
Price falls	Limited loss	Limited gain	Limited gain*	Limited loss*	Limited loss*	Limited gain*
Price Unchanged	Limited loss	Limited gain	Limited loss	Limited gain	No gain or loss	No gain or Loss

* Since price cannot go below 0, there is technically a 'limit' to gain/loss as difference between strike/agreed price and actual price. Alternatively, we can also write Unlimited gain/loss, as there is no limit to how much the price will fall.

Note: Transaction Costs, Taxes, Interest etc., are ignored

Q31. Elaborate how NOSTRO, VOSTRO and LORO Accounts Operate

A. In interbank transactions, foreign exchange is transferred from one account to another account and from one centre to another centre. Banks maintain 3 types of current accounts to facilitate quick transfer of funds in different currencies.

NOSTRO (my account in your bank): Bank's foreign currency account maintained by bank in a foreign country and in home currency of that country. E.g.,, State Bank of India's US$ account with JP Morgan in US.

VOSTRO (your account in my bank): Account which is held by foreign bank with a local bank, so if State Bank of India maintains an account with JP Morgan in US. it will be a Vostro account for JP Morgan.

The account which is Nostro for one bank is Vostro for another.

When domestic banks use account of third party banks which holds Nostro account to settle foreign exchange transactions, these type of transactions are included under **LORO Account** (My account in somebody else' bank). E.g., State Bank of India has an account with JP Morgan but IDBI Bank doesn't have Nostro account with JP Morgan. Now, if IDBI Bank has to pay bill of imported auto parts from USA on behalf of its customers, IDBI Bank shall approach SBI and request them to settle invoice on its own behalf. So, SBI would work as an intermediary between JP Morgan and IDBI.

Exchange Position

It is referred to total commitment of bank to purchase or sale foreign exchange whether actual delivery has taken place or not.

Cash Position

It is outstanding balance (debit or credit) in bank's Nostro account. Since all foreign exchange dealings of bank are routed through Nostro account it is credited for all purchases and debited for sale by bank.

All dealings whether delivery has taken place or not effects Exchange Position but Cash Position is effected only when actual delivery has taken place.

Therefore, all transactions effecting Cash position will affect Exchange Position not vice versa.

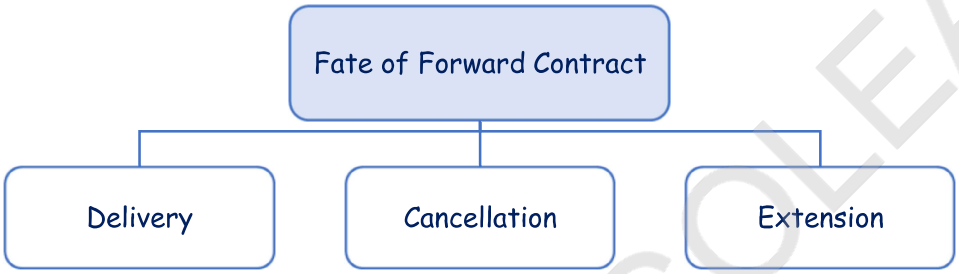
Q32. What do you mean by Rollover of a Forward contract? **(Important)**

A. Rollover means spot cancellation of existing forward contract and booking of new contract for later date. Few reasons for rollover are:

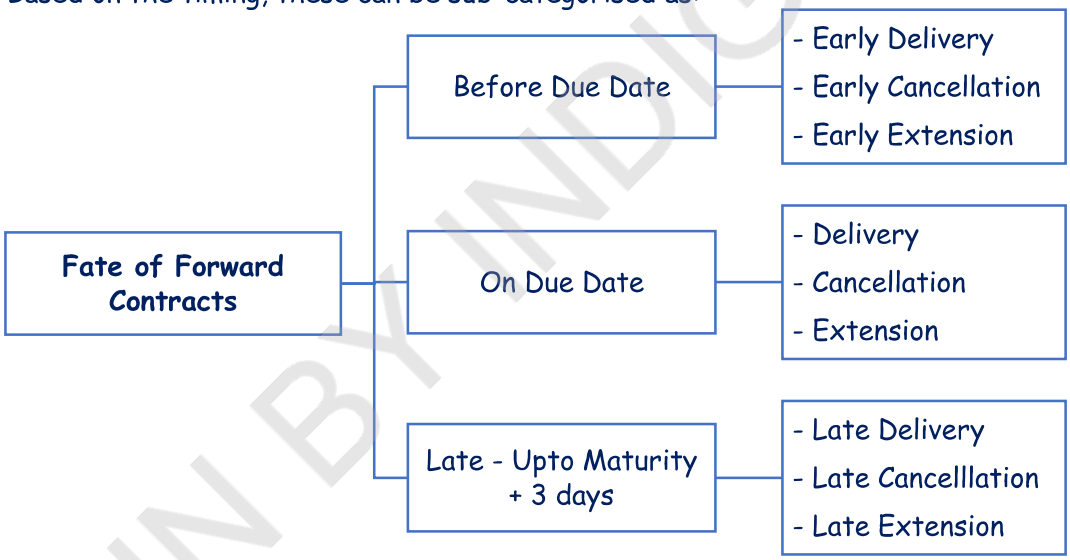
- Non-receipt of Foreign Currency from client (in case of export)
- Shortage of local currencies (in case of import)
- Non-agreement of payment with clients
- Non availability of longer period forward contracts [normally forward contracts are available max. 1 year, to hedge exposure for period more than 1 year, roll over contract shall be used]

Q33. Explain how fate of a forward contract is determined?

A. Whenever any forward contract is entered, it meets any of the following 3 fates:



Based on the timing, these can be sub-categorised as:



Things to note:

- As per FEDAI Rules, Forward contract which remains overdue without any instructions on or before due date, stand automatically cancelled within 3 working days after maturity date.
- Since, FEDAI rules allow late delivery / cancellation / extension upto 3 woring days, banks shall first cancel original forward contract on the date of contract and enter into new contract as possibility of delivery remains within next 3 working days.
- Exporter may not be able to receive money on due date and an importer may not pay on due date. In both of these situations, an extension of contract for selling and buying contract

will happen. Accordingly, if earlier contract is extended, original contract shall be cancelled and rebooked for the new delivery period.

In all these executions except Delivery on Due Date, **there is a request by customer to the Bank.** Bank shall normally accept the same, but it may levy some charges. This is because when bank enters in a forward contract with customer, it also covers itself with back-to-back contract in interbank market. E.g., If bank agrees to sell US$ 1,000 to customer after 3 months, it will enter in contract to buy US$ 1,000 after 3 months. So, if a customer request for early/late delivery/cancellation/extension, this covered contract will anyways have to be settled by the bank and related loss, if any will be passed to the customer. These losses / charges for different execution scenarios are discussed below.

- **Delivery on Due Date**
  No charge / loss is involved as customer takes / gives delivery on due date. Exchange of currencies shall take place at the agreed rate between the parties, irrespective of prevailing spot rate.

- **Early Delivery**
  In this case, customer must bear the loss, if any that accrues to the bank comprising of:

(a) **Swap Difference (S):** The difference can be loss/gain to the bank and arises on account of offsetting its position. Bank will buy/sell in spot/forward market to square of its positions.

(b) **Interest on Outlay of Funds (I):** If early delivery request result in outlay of funds for the bank, it shall charge from customer at a rate not less than prime lending rate for the **period of early delivery to the original due date**. However, if there is an inflow of funds the bank as per its policy, may pass on interest to customer at rate applicable to term deposits for the same period.

- **Cancellation on Due Date**
  Difference between contracted rate and the cancellation rate (reverse action of original contract) is charged from/ paid to the customer [Exchange Difference - Cancellation Gain / Loss – ED/C]

- **Early Cancellation**
  Bank will cancel the forward contract at opposite rate of original contract of the date that matches with the date of original forward contract and loss/gain if any will be passed to customer. (ED/C)

- **Extension on Due Date**
  Forward contract shall be cancelled at spot rate (ED/C) and new contract shall be rebooked at the forward rate for the new delivery period (N).

- **Early Extension**
  First, the original contract would be cancelled at relevant forward rate (ED/C) and shall be rebooked at current forward rate of the forward period (N).

- **Automatic Cancellation**
  Customer is liable to pay exchange difference (ED/C) arising from automatic cancellation but not entitled for the profit resulting from this cancellation. In addition, it will have to pay Swap

difference (S) and Interest on Outlay of Funds (I) for period from due date of maturity of contract to actual date of cancellation of contract or 3 working days whichever is later.

- **Late Cancellation**
  Same as Automatic Cancellation
- **Late Delivery**
  Current rate prevailing on date of delivery shall be applied [N(Spot)] in addition to Exchange Difference (ED/C), Swap Difference (S) and Interest on Outlay of Funds (I) for period from due date of maturity of contract to actual delivery date.
- **Late Extension**
  Relevant forward rate for the desired period shall be applicable in addition to Exchange Difference (ED/C), Swap Difference (S) and Interest on Outlay of Funds (I) for period from due date of maturity of contract to extension date.

Summary of above losses / charges:

	Action	Early Action	On Due Date	Late - Up to M + 3	Beyond M + 3
	Delivery	S + I	No impact	ED/C + I + S + N (Spot)	Automatic Cancellation - ED/C + I + S
Canc G / L	**Cancellation**	ED/C	ED/C	ED/C + I + S	
New contract	**Extension**	ED/C + N	ED/C + N	ED/C + I + S + N (Fwd)	
			No Interest	No profit share	

S	Swap	Swap Charges are applicable when bank is buying & selling for diff time frames due to customer actions - one spot & other Fwd
F	Flat Charges	Usually nominal amount = ₹100 or ₹1000 or so; consider only if it is given in question - usually applicable in all cases where there is an impact
ED/C	Exchange Diff - Cancellation Gain / Loss	Diff between initial rate (agreed with customer) and interbank (sale / buy rate in market on due date) rate entered into by bank due to customer cancellation
I	Interest on funds	Interest is applicable whenever there is inflow and outflow of funds for Bank & In case of post maturity transactions, Bank's B to Back transaction rate will be considered; In other cases that rate will be ignored. In case of early delivery int is NOT computed using B/B rate

N	New Contract	Entered into in case of Extension or Cancellation & Delivery

- FEDAI Guidelines on rounding off Rs. 0.0025
- Over and above normal exchange margin, whenever interbank rates are given and bank has to enter into a one side trans due to cancellation request from customer, exchange margin will be applicable & it will be on the last cancellation by the bank.

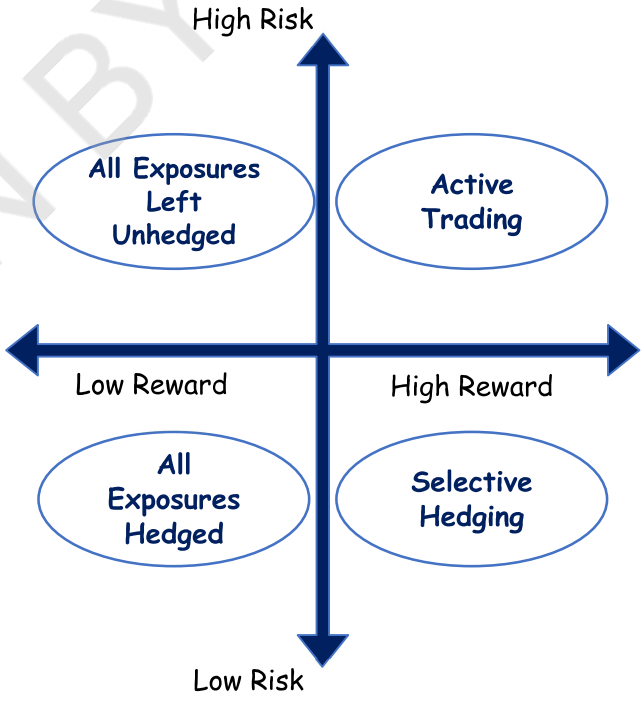
Q34. What is a Non-deliverable Forward Contract (NDF)

A.

- These are Cash-settled, short-term forward contracts on thinly traded or non-convertible foreign currency.
- Profit or loss at settlement date is calculated as agreed upon exchange rate less spot rate at time of settlement.
- NDFs are commonly quoted for time periods of 1 month up to 1 year, and are normally quoted and settled in US$.
- All NDFs have a fixing date and a settlement date.
- Fixing date is date at which difference between prevailing market exchange rate and agreed upon exchange rate is calculated
- Settlement date is date by which payment of difference is due to party receiving payment

Q35. What are various Exposure Management Strategies? (Important)

A. Company's attitude towards risk, its financial strength, nature of business, vulnerability to adverse movements, etc. shapes its exposure management strategies. Four separate strategy options are possible for exposure management. These are:



High Risk: High Reward

- This strategy involves continuous cancellations and re-bookings of forward contracts.
- It requires trading function to become a profit-centre.
- This strategy should be done in full consciousness of the risks.

Low Risk: Low Reward

This strategy involves automatic hedging of exposures in forward market as soon as they arise,

Merits:

- Yields and costs of transaction are known
- There is little risk of cash flow destabilization
- Doesn't require any investment of management time or effort

Demerits:

- Automatic hedging doesn't result into optimum costs.
- Some companies prefer this strategy as they do not consider active management of exposures as their business.
- This strategy is not considered as optimum strategy for business whose costs depend significantly on exchange rates, which have taken the characteristics of commodity prices in today's era. So, these businesses can hardly afford not to take views on price of the commodity.

High Risk: Low Reward

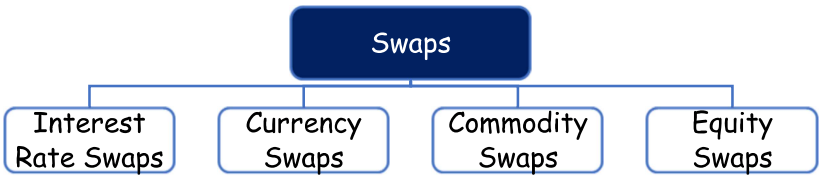
- This involves leaving all exposures unhedged which is not a recommended strategy for a company.
- Risk of destabilization of cash flows is very high.
- Merit - Zero investment of managerial time or effort.

Low Risk: Reasonable Reward

- This involves selective hedging of exposures whenever forward rates are attractive but keeping them open whenever they are not.
- Similar to investment strategy of bonds + equities with proportion of them depending on attractiveness of prices.
- This strategy requires quantification of expectations about future and rewards would depend upon accuracy of prediction.

Q36. What are Various kinds of Swaps?

A. Swapping basically means **exchanging underlying economic basis** of debt or asset **without affecting underlying principal obligation** on debt or asset. E.g., if a company has $ payments to be made at regular intervals in forms of interest and principal re-payments, it may consider exchanging this $ liability for fixed rate loan in local currency.



Interest Rate Swaps: These are swaps that are entered into for converting a floating rate asset / liability into fixed rate or vice-versa.

Currency Swaps: These involve exchange of liabilities between currencies.

A Currency swap can consist of 3 stages:

- Spot Exchange of Principal
- Continuing exchange of interest payments during term of the swap
- Re-exchange of principal on maturity

Currency swap has following benefits:

- Hedges currency risk
- Provide considerable cost savings.
- Indian company may be interested in foreign currency borrowing (US$) but its credit rating in American markets may not be as good as it is in India. Such company can get a better US $ rate by raising funds first in Indian market and then swapping ₹ for US $.
- Permits funds to be accessed in currencies, which may otherwise command a high premium.
- Offers diversification of borrowings

Currency coupon swap: Swaps a fixed-or floating rate interest payment in one currency for a floating rate payment in another. These are also known as Circus Swaps.

Commodity Swaps: It involves a Series of Future Contracts involving settlement on basis of notional amount over multiple dates at predetermined specified reference prices or related commodities indices.

Equity Swaps: Arrangement in which total return on equity or equity index in the form of dividend and capital is exchanged with either a fixed or floating rate of interest. E.g., a company may swap a Sensex return with a fixed interest rate payment for a notional amount of say ₹ 1,00,000.

INTERNATIONAL FINANCIAL MANAGEMENT 28Q|3PE

Q1. What are the complexities involved in International Capital Budgeting

A. Complexities

- Cash flows from foreign projects have to be converted into the currency of the parent organization.
- Parent cash flows are quite different from project cash flows
- Profits remitted to the parent firm are subject to double taxation.
- Foreign Exchange risk
- Political risk
- Changes in rates of inflation
- Restrictions imposed on cash flow distribution generated from foreign projects by the host country
- Initial investment in the host country to benefit from the release of blocked funds
- Concessions/benefits provided by the host country ensures the upsurge in the profitability position of the foreign project
- Estimation of the terminal value in multinational capital budgeting is difficult since the buyers in the parent company have divergent views on acquisition of the project.

Q2. What are the problems affecting Foreign Investment Analysis

A.

Problem	Solution
Problem 1 - Foreign Exchange Risk	It is necessary to forecast the inflation rate in the host country during the lifetime of the project. Adjustments for inflation are made in the cash flows depicted in local currency. The cash flows are converted in parent country's currency at the spot exchange rate multiplied by the expected depreciation rate obtained from purchasing power parity
Problem 2 - Restrictions imposed on transfer of profits, depreciation charges and technical specifications differences exist between project cash flows and cash flows obtained by the parent organization.	Such restriction can be diluted by the application of techniques viz internal transfer prices, overhead payments.
Problem 3 - Adjustment for Blocked Funds	Depends on opportunity cost. The initial investment will be net of any blocked funds that can be made use of by the parent company for investment in the project. If a parent company can release such 'Blocked Funds' in one country for the investment in a overseas project, then such

	amounts will go to reduce the 'Cost of Investment Outlay'.
Problem 4 - The presence of two tax regimes Remittances to the parent firm in the form of royalties, dividends, management fees etc, tax provisions with held in the host country, Presence of tax treaties, tax discrimination pursued by the host country between transfer of realized profits vis-à-vis local re-investment of such profits	For computation of actual after-tax cash flows accruing to the parent firm, higher of home/ host country tax rate is used. If the project becomes feasible then it is acceptable under a more favorable tax regime. If not feasible, then, other tax saving aspects need to be incorporated in order to find out whether the project crosses the hurdle rate.

Q3. Project vis a vis Parent Cash Flows are different – Explain **(Important)**

A. The basis on which a project shall be evaluated depend on one's own cash flows, cash flows accruing to the parent firm or both. The cash flows of the project are different from the cash flows of the parent. Evaluation of the project is mostly done from the parent's cash flows.

An investment has to be evaluated on the basis of net after tax operating cash flows generated by the project.

Q4. Where should risk be adjusted? In the Discount Rate or in Cash Flows? **(Important)**

A. It is not proper to combine all risks into a single discount rate.

Obtain current spot, apply purchasing power parity, and project inflation in the host country during the lifetime of the project. Forecast the exchange rate and apply that rate.

Cash flows generated by the project and remitted to the parent during each period are adjusted for political risk, exchange rate and other uncertainties by converting them into certainty equivalents.

Q5. What is the concept of Adjusted Present Value?

A. It is a value addictive approach where each cash flow is considered individually and discounted at a rate consistent with risk involved in the cash flow.

The APV model is represented as follows

$$APV = -I_0 + \sum_{t=1}^{n} \frac{X_t}{(1+K)^t} + \sum_{t=1}^{n} \frac{T_t}{(1+i_d)^t} + \sum_{t=1}^{n} \frac{S_t}{(1+i_d)^t}$$

Where,

I_0 is the Present Value of Investment Outlay

$\frac{X_t}{(1+K)^t}$ is the present value of operating cash flow

$\frac{T_t}{(1+i_d)^t}$ is the present value of Interest Tax shields

$\frac{S_t}{(1+i_d)^t}$ is the present value of Interest subsidies

Operating cash flow to be discounted with cost of equity.

Interest tax shield and interest subsidies to be discounted before tax cost of debt of home currency.

Q6. FCCBs are a good source of raising money for corporates – Elaborate **(Important) (Past Exam)**

A. Foreign Currency Convertible Bonds (FCCBs) mean a bond issued by an Indian company expressed in foreign currency, and the principal and interest in respect of which is payable in foreign currency. The bond is convertible to equity at a pre-determined price and a specified time. It is a hybrid instrument.

Advantages of FCCBs

To the Investor:

- Flexibility to convert the bond into equity at a price or redeem the bond at the end of a specified period, if the price of the share has not met his expectations.
- Minimum fixed interest earnings
- Easily marketable

To the Companies:

- As the equity component of the bond has high value, the coupon is lower, thereby reducing its debt-financing costs.
- Leads to delayed dilution of equity and allows company to avoid any current dilution in earnings per share that a further issuance of equity would cause.
- Where the company has high rate of growth in earnings and the conversion takes place subsequently, the price at which shares can be issued can be higher than the current market price.

Disadvantages of FCCBs

- Interest on bonds would be payable in foreign currency. Hence more exchange risk.
- There is exchange risk even of repayment if the bonds are not converted into equity shares.

Q7. What are American Depository Receipts? **(Important)**

A. American Depository Receipts (ADRs) offer US investors a means to gain investment exposure to non-US stocks without the complexities of dealing in foreign stock markets. Such receipts must be issued in accordance with the provisions stipulated by the Securities and Exchange Commission of USA (SEC).

An ADR is generally created by the deposit of the securities of a non-United States company with a custodian bank in the country of incorporation of the issuing company. The custodian bank informs the depository in the United States that the ADRs can be issued. ADRs may be listed on a major exchange such as the New York Stock Exchange or may be traded over the counter.

Q8. What are Global Depository Receipts? **(Important)**

A. GDRs are most commonly used when the issuer is raising capital in the local market as well as in the international and US markets, either through private placement or public stock offerings. A global depositary receipt (GDR) is very similar to an American depositary receipt (ADR), except that an ADR only lists shares of a foreign country in the U.S. markets whereas in a GDR the listing is in the Luxemburg exchange. Till conversion, the GDR does not carry any voting rights.

A GDR usually represents one or more shares or convertible bonds of the issuing company.

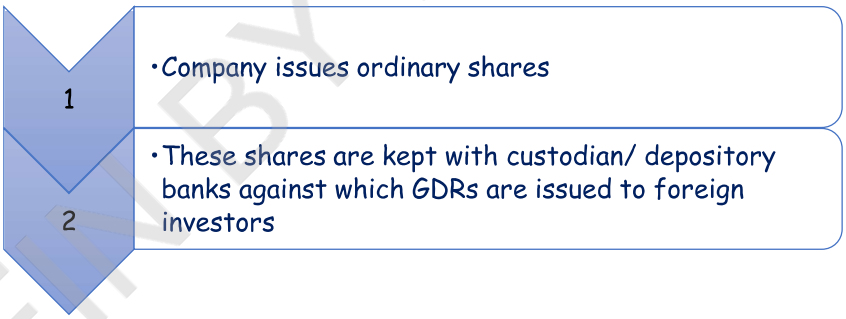
Q9. What is the impact of GDRs on Indian Markets? **(Important)**

A. Impact of GDRs on Indian Capital Markets

- Indian stock market to some extent is shifting from Bombay to Luxemburg.
- There is arbitrage possibility in GDR issues.
- Indian stock market is no longer independent from the rest of the world.
- GDRs/Foreign Institutional Investors' placements + free pricing implies that retail investors can no longer expect to make easy money on heavily discounted rights/public issues.

Q10. How are GDRs issued? **(Important)**

A. Mechanism of GDR Issuance



Q11. What are Characteristics of Depository Receipts? **(Important)**

A.

- Holders participate in the economic benefits of being ordinary shareholders, though they do not have voting rights.
- They are settled through CEDEL & Euro-clear international book entry systems.
- GDRs are listed on the Luxemburg stock exchange. ADRs are listed on the New York stock exchange
- Trading takes place between professional market makers on an OTC (over the counter) basis.
-

- The instruments are freely traded.
- They are marketed globally without being confined to borders of any market or country as it can be traded in more than one currency.
- Investors earn income by way of dividends which are paid in issuer currency converted into dollars by depository and paid to investors and hence exchange risk is with investor.
- As far as the case of liquidation of GDRs is concerned, an investor may get the GDR cancelled any time after a cooling period of 45 days. A non-resident holder of GDRs may ask the overseas bank (depository) to redeem (cancel) the GDRs. In that case overseas depository bank shall request the domestic custodians bank to cancel the GDR and to get the corresponding underlying shares released in favour of non-resident investor.
- The price of the ordinary shares of the issuing company prevailing in the Bombay Stock Exchange or the National Stock Exchange on the date of advice of redemption shall be taken as the cost of acquisition of the underlying ordinary share.

Q12. What are Euro Convertible Bonds?

A. Euro Convertible Bonds

These are the bonds issued by Indian companies in the foreign market with the option to convert them into pre-determined number of equity shares of the company. These bonds carry fixed rate of interest and price of equity shares at the time of conversion will fetch premium.

The issue of such bonds may carry two options –

Call Option: The issuer can call the bonds for redemption before the date of maturity. If the share price has appreciated substantially, the issuer company can exercise the option. This option forces the investors to convert the bond into equity.

Put Option: It enables the buyer of the bond, a right to sell his bonds to the company at a pre-determined price and date. The payment of interest and the redemption of the bonds will be made by the issuer company in US dollars.

Q13. What are the other Debt routes for foreign exchange funds?

A.

Euro Bonds

A Eurobond is a bond issued offshore by governments or corporates denominated in a currency other than that of the issuer's country. Eurobonds are usually long-term debt instruments. These are usually bearer bonds and can take the form of

- Traditional Fixed Rate Bonds.
- Floating Rate Notes (FRNs)
- Convertible Bonds.

Euro Convertible Zero Bonds

No interest is payable on the bonds. Conversion of bonds takes place on maturity at a pre-determined price. Usually, maturity period is of five years and treated as deferred equity issue.

Euro Bonds with Equity Warrants

These bonds carry a coupon rate determined by the market rates. The warrants are detachable. Pure bonds are traded at a discount. Fixed income funds' managements may like to invest for the purposes of regular income

Euro Commercial Papers

These are short term money market securities usually issued at a discount, for maturities less than one year

Syndicated bank loans

It is one of the older ways of raising funds from banks. The interest rate is generally set with reference to an index, say, LIBOR plus a spread which depends upon the credit rating of the borrower. Some covenants are laid down by the lending institution like maintenance of key financial ratios.

Yankee Bonds

These bonds are denominated in U.S. dollars and issued in the United States by foreign banks and corporations. These bonds are usually registered with the SEC.

Samurai Bonds

These bonds are denominated in Yen and issued in Tokyo by a non-Japanese borrower.

Bulldog Bonds

A bulldog bond is a type of foreign bond issued by non-British corporations seeking to raise capital in pound-sterling from British investors.

Masala Bonds

Masala Bonds are rupee-denominated bonds. It is a debt instrument issued by an Indian entity in foreign markets to raise money, in Indian currency.

Q 14. What is International Financial Centre (GIFT CITY)? **(Past Exam)**

International Financial Centre (IFC) is a financial centre that caters to the needs of the customers outside their own jurisdiction. IFC is a hub that deals with flow of funds, financial products and financial services even though in own land (country) but with different set of regulations and laws.

These centres provide flexibility in currency trading, insurance, banking and other financial services. This flexible regime attracts foreign investors benefitting not only to the stakeholders but as well as for the country hosting IFC itself.

Q 15. What are the Benefits of IFC?

There are numerous direct and indirect benefits of setting up IFC but some major benefits emanating from establishing IFC are as follows:

(i) Opportunity for qualified professionals working outside India to come here and practice their profession.

(ii) A platform for qualified and talented professionals to pursue global opportunities without leaving their homeland.

(iii) Stops Brain Drain from India.

(iv) Bringing back those financial services transactions presently carried out abroad by overseas financial institutions/entities or branches or subsidiaries of Indian Financial Market.

(v) Trading of complicated financial derivative can be started from India.

Q 16. What are the Constituents of IFC?

(i) Highly developed Infrastructure: - A leading edge infrastructure is a prerequisite for creating a platform to offer internationally competitive financial services.

(ii) Stable Political Environment: - Destabilized political environment brings country risk for investment by foreign nationals. Hence, to accelerate foreign participation in growth of financial centre, stable political environment is a prerequisite.

(iii) Strategic Location: - The geographical location of the finance centre should be strategic such as near to airport, seaport and should have friendly weather.

(iv) Quality Life: - The quality of life at the centre should be good as centre retains highly paid professionals from own country as well from outside.

(v) Rational Regulatory Framework: - Rationale legal regulatory framework is another prerequisite of international finance centre as it should be fair and transparent.

(vi) Sustainable Economy: - The economy should be sustainable and should possess capacity to absorb all the shocks as it will boost investors' confidence.

Q17. Elaborate on GIFT City - India's International Financial Services Centre

- To compete with its rival financial services centres situated in Dubai, Hong Kong etc. the idea of setting up an International Financial Centre in India was coined in 2007.
- The main motive of setting up IFC in India was to retain the financial services businesses in India which moves out of India.
- Since foreign investors normally remain hesitant to get registered in India, GIFT city provides them a separate jurisdiction where it is easy to do business because of relaxed tax and other laws.
- Government of India operationalized International Financial Services Centre (IFSC) at GIFT Multi Services SEZ in April 2015. The Union Budget 2016 provided competitive tax regime for the IFSC at GIFT SEZ.
- India's first International Exchange – India INX, a wholly owned subsidiary of Bombay Stock Exchange on was inaugurated on 9th January 2017. India INX has stated trading in Index, currency, commodity and equity derivatives.
- On 5th June 2017, National Stock Exchange (NSE) also launched its trading at GIFT. Initially, it started trading in derivative products in equity, currency, interest rate futures and commodities.
- GIFT IFSC provides very competitive cost of operations with very competitive tax regime, single window clearance; relax company law provisions, international

arbitration centre with overall facilitation of doing business. GIFT IFSC is now moving toward unified regulatory mechanism.

- GIFT City is a new Financial & Technology Gateway of India for the World. To be internationalized, exchange controls cannot apply. So, FEMA is not applicable at GIFT city.
- New financial institutions are setting business units in GIFT as they will pay reduced taxes as valid for special economic zones and can easily offer foreign currency loans to Indian Companies abroad and foreign firms.

Q 18. What are Sovereign Funds?

A Sovereign Wealth Fund (SWF) is a state-owned investment fund comprised of money generated by the government. This money generally derived by Government from country's own surplus reserves. SWFs provide a benefit for a country's economy and its citizens. Since it is created by the Government the legal basis on which these are created varies from Government to Government. The legal basis for a sovereign wealth fund can be Constitutive Law, Fiscal Law, Constitution, Company Law or any Other Laws and Regulations.

Q 19. What are the popular sources for funding SWF?

- Surplus reserves from state-owned natural resource revenues and trade surpluses,
- Bank reserves that may accumulate from budgeting excesses,
- Foreign currency operations,
- Money from privatizations, and
- Governmental transfer payments.

Q 20. What are the common objectives of a sovereign wealth fund?

- Protection & Stabilization of the budget and economy from excess volatility in revenues/exports
- Diversify from non-renewable commodity exports.
- Earn better returns than returns on foreign exchange reserves.
- Assist monetary authorities dissipate unwanted liquidity.
- Increase savings for future generations.
- Fund social and economic development
- Ensuring Sustainable long term capital growth for target countries
- Political strategy

Q 21. What are various classifications of SWFs?

A. Like any other type of investment funds, SWFs can have their own objectives, risk tolerances, terms, and liquidity concerns etc. While some funds prefer returns over liquidity, and some may prefer vice- versa. Depending on the assets and objectives, sovereign wealth funds' risk management can range from very conservative to a high tolerance for risk. Traditional classifications of SWFs include:

- Stabilization funds
- Savings or future generation funds
- Public benefit pension reserve funds

- Reserve investment funds
- Strategic Development Sovereign Wealth Funds (SDSWF)

Q 22. What are Various types of Sovereign Investment Vehicles?

- Sovereign Wealth Funds (SWFs)
- Public Pension Funds
- State-Owned Enterprises
- Sovereign Wealth Enterprises (SWEs)

Q23. What are the complexities involved in International Financial Management?

A.

- The firm has a wider option for financing its current assets. It must choose to avail itself of financing either locally or from global markets.
- Variation of interest and tax rates among different countries.
- Foreign exchange risks, Political risks
- Blockage of funds
- Rules and regulations of transfer pricing

Q24. What are the complexities and objectives of Multinational Cash Management? **(Important) (Past Exam)**

A. The objective of multinational cash management is

- Effectively managing and controlling cash resources of the company.
- It can be attained by improving cash collections and disbursements and my making an accurate and timely forecast of cash flow pattern.

Achieving optimum utilization and conservation of funds.

It can be reached by making money available as and when needed, minimizing the cash balance level, and increasing the risk adjusted return on funds that is to be invested.

Objectives of Effective system of international cash management

- To minimise currency exposure risk.
- To minimise overall cash requirements of the company as a whole without disturbing smooth operations of the subsidiary or its affiliate.
- To minimise transaction costs.
- To minimise country's political risk.
- To take advantage of economies of scale as well as reap benefits of superior knowledge.

The above objectives are conflicting in nature.

For Example: Minimizing transaction costs conflicts with minimizing currency and political exposure requirements.

Q25. How Does Centralized Cash Management Work?

A. A centralized cash management group is required to monitor and manage parent subsidiary and inter-subsidiary cash flows. This leads to centralization of

- Information
- Reports and decision-making process relating to cash mobilization
- Movement and investment

A Centralised cash systems helps the Multinational Organisation as follows

- Maintaining minimum cash balances
- To manage liquidity requirements
- Apply various hedging strategies to minimise foreign exchange exposure
- Generate maximum returns by investing all cash resources optimally.
- Take advantage of multinational netting to reduce transaction costs and currency exposure
- To make maximum utilization of transfer pricing mechanism so that the firm enhances its profitability and growth.
- To exploit currency movement correlations

Q26. What are the ways to optimize cash flows in a multinational cash management setting?

A. Ways to optimise Cash Inflows

Accelerating Cash Inflows

Faster recovery of cash inflows helps the firm to use them whenever required or to invest them for better returns.

Managing Blocked Funds

Some part of earnings generated in host country are reinvested locally before being remitted to the parent so that jobs are created, and unemployment reduced in the host country.

The subsidiary may be instructed to obtain bank finance locally for the parent firm so that blocked funds may be utilised to pay off bank loans.

The parent company must also analyse the potential future funds blockage in a foreign country and political risks attached to those blockages.

Leading and Lagging

Timing of payment can be adjusted with future currency movements. MNCs accelerate (lead) or delay (lag) the timing of foreign currency payments through adjustment of the credit terms extended by one unit to another. This technique helps to reduce foreign exchange exposure or to increase available working capital.

For Example:

Importer applies the leading strategy if home currency is depreciating.

Exporter applies the lagging strategy if home currency is depreciating.

Minimising tax on cash flows through Transfer Pricing Mechanism

Large entities having many divisions require goods and services to be transferred frequently from one division to another. The higher the transfer price, the larger will be the gross profit of the transferor division with respect to the transferee division.

Transfer pricing are subject to exchange restrictions and the issue gets more complicated due to inflation differentials, import duties, tax rate differentials between two nations, quotas imposed by host country, etc.

Netting

It is a technique to reduce administrative and transaction costs resulting from currency conversion. By offsetting payables and receivables, netting reduces number of transactions. It helps in minimising the total volume of inter-company fund flow.

There are two types of netting

Bilateral Netting System

It involves transactions between the parent and a subsidiary or between two subsidiaries.

For Example:

Entity A purchased $10 Million worth of goods from Entity B. Entity B purchased $ 15 Million goods from Entity A. In bilateral netting, Entity B pays only $5 Million to Entity A.

Multinational Netting System

Multilateral netting is a payment arrangement among multiple parties that transactions be summed, rather than settled individually. The netting activity is centralized in one area, obviating the need for multiple invoicing and payment settlements among various parties. This type of system calls for the consolidation of information and net cash flow positions for each pair of subsidiaries.

For Example:

Inter Subsidiary Payment Matrix (in $ Million)

Paying Affiliate						
		India	USA	UK	Italy	Total
Receiving Affiliate	India		100	50	100	250
	USA	40		70	30	140
	UK	30	20		100	150
	Italy	80	40	50		170
	Total	150	160	170	230	710

Without netting the total payments are $710 Million. Through multinational netting, these transfers can be reduced to $100 Million, which is computed as follows.

Netting Schedule (in $ Million)

	Receipt	Payment	Net Receipt	Net Payments
India	250	150	100	
USA	140	160		20
UK	150	170		20
Italy	170	230		60
Total			100	100

Investing Excess Cash

Through a centralized cash management strategy, MNCs pool together excess funds from subsidiaries enabling them to earn higher returns due to the larger deposits lying with them.

For Example:

Euro Currency market accommodates excess cash in international money market. Euro Dollar deposits offer MNCs higher yield than bank deposits in US

The centralized system helps to convert the excess funds pooled together into a single currency for investments thereby involving considerable transaction cost and a cost benefit analysis should be made to find out whether the benefits reaped are not offset by the transaction costs incurred.

Entities can also diversify their portfolio to different currencies and avoid the possibility of incurring substantial losses that may arise due to sudden currency depreciation.

Q27. Elaborate about International Inventory Management?

A. Different entities get large part of their inventory from their sister units across different countries. An international firm normally possesses a bigger stock than Minimum Order Level and this process is known as stock piling. This may be because of various political uncertainties, bottleneck on imports, forex risks etc. If the probability of interruption in supply is very high, the firm may opt for stock piling even if it is not justified on account of higher cost.

MNCs must consider risk and reward of maintaining higher inventory especially in international supply chain management.

Q28. Elaborate about International Receivables Management?

A. International Receivables Management

There are two types of credit sales viz. Interfirm sales and Intra firm sales.

Interfirm Sales

The exporter is interested in denominating the transaction in a strong currency while the importer wants to get it denominated in weak currency.

For Example:

Indian Exporter bills the transaction in dollars if rupee is depreciating and vice versa.

The exporter may be willing to invoice the transaction in the weak currency even for a long period if it has debt in that currency.

For Example:

Indian Exporter bills the transaction in dollars even if rupee is appreciating if he/she has dollar debt. Here, sale proceeds being used to repay debt without loss on account of exchange rate changes.

The entity applies leading and lagging strategies, takes into consideration all the political risks, forex risks, interest rate risks, competition etc. in managing their receivables and payables.

Intra firm sales

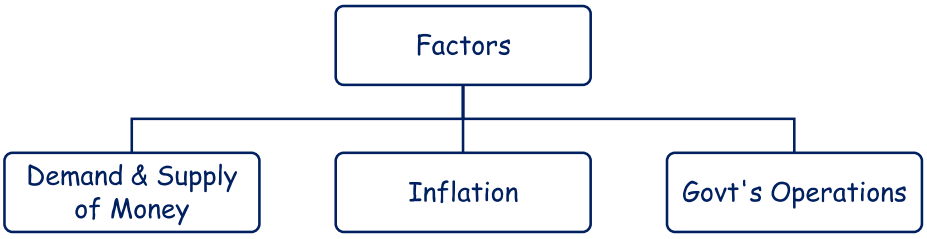
The focus is mainly on global allocation of firm's resources. Different parts of the same product are produced in different units established in different countries and exported to the assembly units leading to a large size of receivables.

Quick or delayed payment does not affect the firm as both the seller and the buyer are from the same firm though the one having cash surplus will make early payments while the other having cash crunch will make late payments.

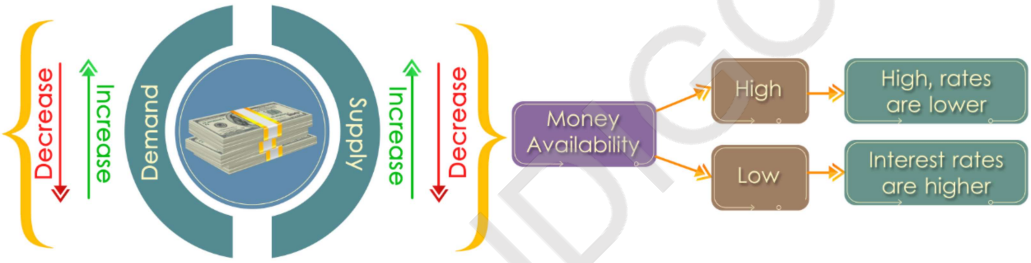
INTEREST RATE RISK MANAGEMENT 17Q|5PE

Q1. What are the Factors Affecting Interest Rates? **(Important)**

A.



Demand & Supply of Money - The central bank of the country, RBI controls the money supply in the economy through its monetary policy. RBI loosens its monetary policy to reduce the interest rates and when required it strengthens its monetary policy which leads to increase in interest rate.



When economic growth is high, demand for money increases and money available in the market is low, which pushes the interest rates up. And when demand for money is low and money is available in the markets, interest rates are low.

Inflation

Inflation and interest rates are closely linked to each other. Inflation is the increase in the price level of goods and services in an economy over a period of time. RBI attempts to influence the rate of inflation by setting and adjusting the target for the interest rate. This enables RBI to expand or contract the money supply as needed, which influences target employment rates, stable prices, and stable economic growth.

So, when interest rates are low, the economy grows, and inflation increases as interest rates are reduced, more people are able to borrow more money, consumers have more money to spend. This causes the economy to grow and inflation to increase. On the other hand, when interest rates are high, the economy slows and inflation decreases.

Govt.'s Operations

Government is the biggest borrower. It's borrowing levels determine the interest rates. RBI, by either printing more notes or through its Open Market Operations (OMO) of

buying and selling bonds changes the key rates (CRR, SLR and bank rates) depending on the state of the economy or to combat inflation.

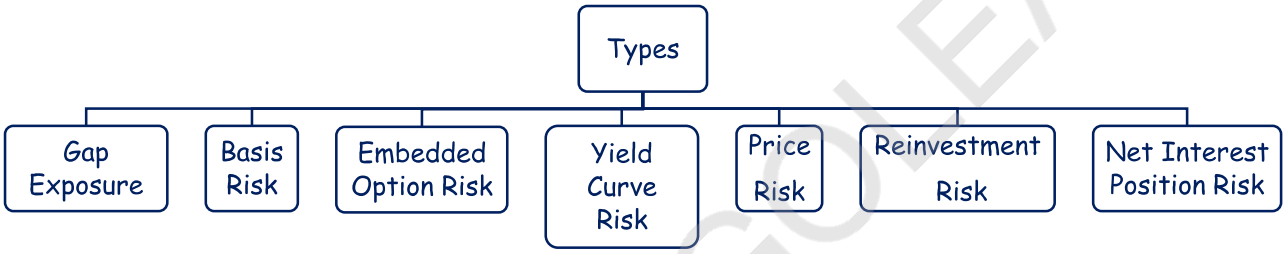
Q2. What are various types of Interest Rate Risks? **(Important) (Past Exam)**

A. Interest Rate Risks

Interest rate risk is the probability that a change in overall interest rates will reduce the value of a bond or other fixed-rate investment. Interest rate risk arises when the absolute level of interest rate fluctuates.

Since interest rates and bond prices are inversely related, the risk associated with a rise in interest rates causes bond prices to fall and vice versa.

Types of Interest Rate Risks



Gap Exposure

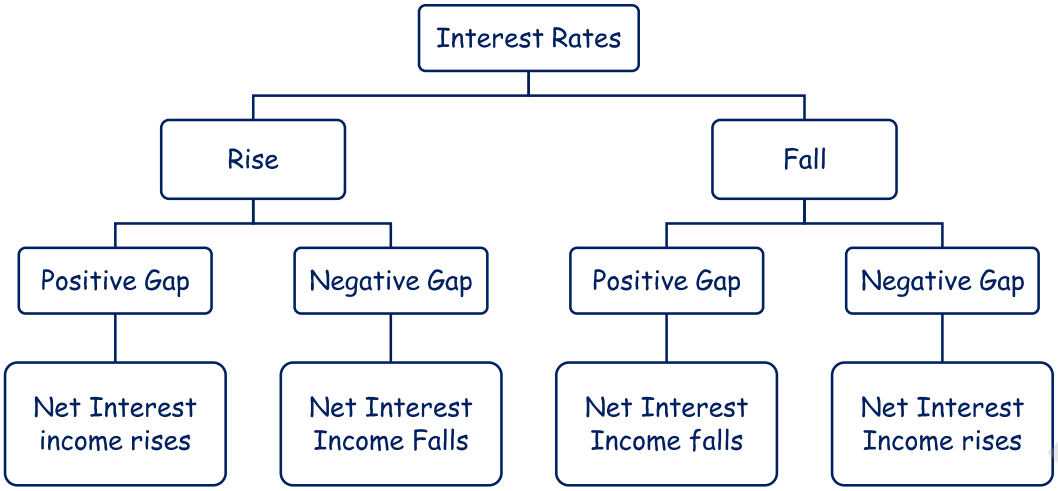
A bank pays interest on borrowed funds (liabilities) at one rate and loans the money (assets) out at a higher rate. The gap is the distance between assets and liabilities. The gap, or difference, between the two rates represents the bank's profit. Gap can of two types, Positive Gap and Negative Gap.

A positive gap occurs when a bank's interest rate sensitive assets exceed its interest rate sensitive liabilities. A negative gap occurs when a bank's interest rate sensitive liabilities exceed its interest rate sensitive assets.

Positive GAP = Rate sensitive Assets (RSA)> Rate sensitive Liabilities (RSL)

Negative GAP = Rate sensitive Liabilities (RSL) > Rate sensitive Assets (RSA)

The interest rate gap helps determine a bank or financial institution's exposure to interest rate risk.



Earnings at Risk (EaR) method

Earnings at Risk (EaR) method is used for measuring the impact of Gap Exposure. Earnings at risk is the amount of change in net interest income due to changes in interest rates over a specified period. Under this method GAP is multiplied by the probable change in Interest Rate to arrive at the impact.

Limitations of GAP

- Considers only the time difference between re-pricing dates of assets and liabilities but fails to measure the impact of basis risk (i.e the use of different bases for each asset and liability) and embedded option risks (eg: defaults, delays, premature payments).
- Fails to measure the entire impact of a change in interest rate – it assumes that all assets and liabilities are matured or re-priced simultaneously
- Ignores differences in the timing of payments that might occur as a result of changes in interest rate environment.
- Assumes parallel shift in yield curves, which doesn't really happen in the financial markets.
- Doesn't consider impact of interest rate changes on non-interest-based revenue (eg: upfront fees, LC commission, etc) and non-interest based expenses in the computation of GAP though they might be affected by interest changes.

Basis Risk

Assets and Liabilities may be linked to different kinds of bases; for example one could be based on LIBOR and the other could be a fixed rate. The risk that the interest rate of different assets, liabilities and off-balance sheet items may change in different magnitude is termed as basis risk.

Embedded Option Risk

An embedded option is a feature of a financial instrument that lets issuers or holders take specified actions against the other party at some future time. Embedded options risk is the risk of parties to do specific actions, such as call pre-pay, delay in repayment, default in interest and principal payments.

Yield Curve Risk

When interest rates in the market change, the price of a bond will change. There is an inverse relationship between price and yield: when bond prices go down, yields go up, and when bond prices go up, yields go down.

Like price-yield relationship, there is an important relationship between yield and maturity. Yield curve is a graph that plots the yields of similar-quality bonds against their maturities.

The movements in yield curve are rather frequent when the economy moves through business cycles. Thus, banks should evaluate the movement in yield curves and the impact of that on the portfolio values and income.

Price Risk

Price risk is the risk that the value of a security or investment will decrease. Price risk occurs when assets are sold before their stated maturities. Bond prices and yields are inversely related.

Reinvestment Risk

Uncertainty with regard to interest rate at which the future cash flows could be reinvested is called reinvestment risk. It is high for bonds with long maturities and high coupons.

Net Interest Position Risk

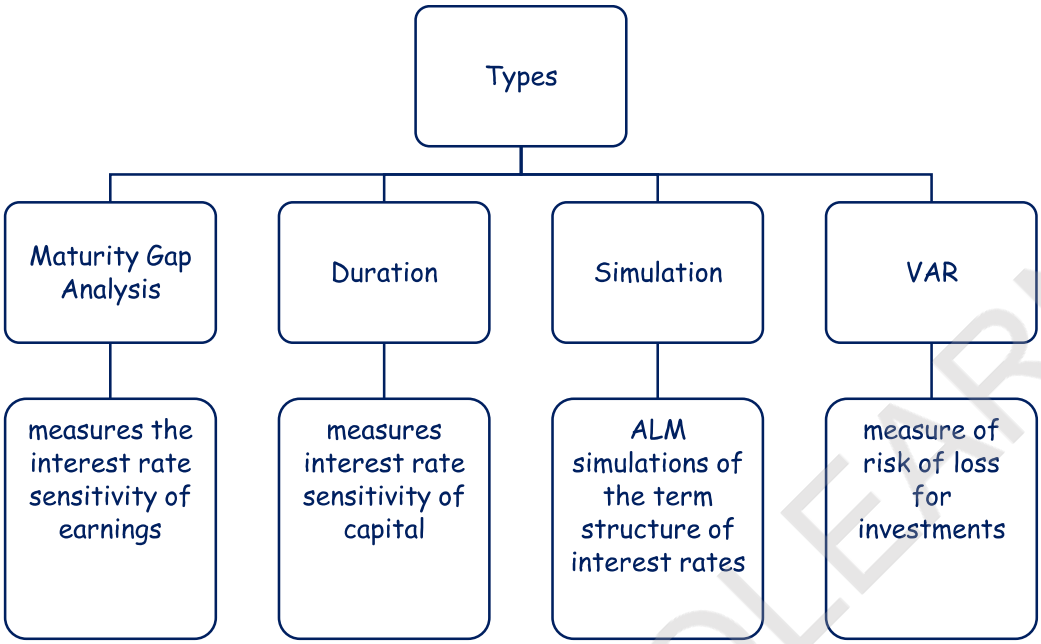
The Net Interest Income (NII) position can cause interest rate risk. If a bank has more assets on which it earns interest than its liabilities on which it pays interest, interest rate risk arises when interest rate earned on assets changes while the cost of funding of the liabilities remained the same. Thus, the bank with a positive net interest position will experience a reduction in NII as interest rate declines and an expansion in NI as interest rate rises. To mitigate net interest position risk, floating rates can be adopted.

Q3. How does one measure Interest Rate Risk? **(Important)**

A. There are different techniques for measurement of interest rate risk,

- Maturity Gap Analysis (to measure the interest rate sensitivity of earnings),
- Duration (to measure interest rate sensitivity of capital),

- Simulation and
- Value at Risk.



Q4. How does a Bank manage its interest rate risk? **(Important)**

A. In a structured bank, operations are broadly split into Trading and Investment or Banking Books.

The assets in the trading book are held primarily for generating profit on short-term differences in prices/yields, whereas the banking book comprises assets and liabilities, which are contracted for steady income and statutory obligations, are generally held till maturity.

Price risk is the prime concern of banks in trading book, the earnings or economic value changes are the main focus of banking book. Interest rate impact on trading and economic activities are measured and evaluated independently. Banks use all techniques to measure and mitigate interest rate risks.

Q5. Distinguish between Fixed and Floating interest rates? **(Important)**

A. Fixed interest on loans refers to the interest rate being the same for the entire duration/ term of the loan tenure. Floating interest rate refers to the variable interest rate that changes during the duration of the loan tenure.

Banks use benchmark interest rate (rate against which other interest rates are calculated) for determining the interest rates to be charged.

For example - MIBOR + 1% or LIBOR + 200 bps.

Banks will always maintain a spread between the cost of funds and lending rate. Indian loans are benchmarked to Marginal Cost of Funds based Lending Rate (MCLR) or Bank's Prime Lending Rate (BPLR)

Q6. What are Benchmark Rates?

A.

- Benchmark interest is an interest rate that forms the basis for determination of other interest rates. These rates are also known as 'Reference Rates'.
- These rates are very important in any economy and banking system and especially in financial transactions as they not only form the basis of financial contracts such as bank overdrafts, loans, mortgages but are also used in other complex financial transactions.
- The benchmark rates are widely used in derivative transactions such as Forward, Future, Option Contract and especially Swap Contracts.
- The Benchmark rate also forms the basis for floating rate loans. Generally based on relative credit rating of the concerned entities spread in terms of basis points (bps) are added over and above the benchmark rate for any financial transaction loan or issuance of Bonds etc.
- These rates are decided by an independent body after considering various factors.
- In financial transactions both domestic as well as international benchmark rates are used.
- One of the most popular benchmark rates in international financial market was LIBOR (London Interbank Offered Rate). However, after coming of the news of manipulations by some banks in 2012, it was finally decided in 2017 that it would cease to exist. Accordingly, with the beginning of 1st January 2022, to enter into contracts companies are required to use Alternative Reference Rates (ARRs).

ARRs are different from LIBOR because of the following reasons :-

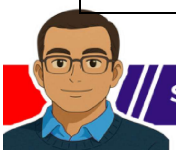
(i) While ARRs are based on actual overnight transactions either secured or unsecured, LIBOR is unsecured without any collateral and mainly relies on the judgment of the panel banks to a great extent.

(ii) ARRs are also considered to be near risk free rates with no term premium.

Contrary to single LIBOR for different currencies, the ARRs shall have different names, regulator, and nature. In addition to that, these will be referred on the basis of geographical referred locations of different currencies.

The different ARRs are as follows:

Region	Rate	Regulator	Nature
USA	Secured Overnight FinancingRate (SOFR)	Federal Reserve Bank ofNew York	Secured
UK	Sterling Overnight Index Average (SONIA)	Bank of England	Unsecured
Europe	Euro-Short-Term Rate (€STER)	European Central Bank	Unsecured
Japan	Tokyo Overnight Average Rate (TONAR)	Bank of Japan	Unsecured
Switzerland	Swiss Average Rate Overnight (SARON)	SIX (Swiss Stock Exchange)	Secured



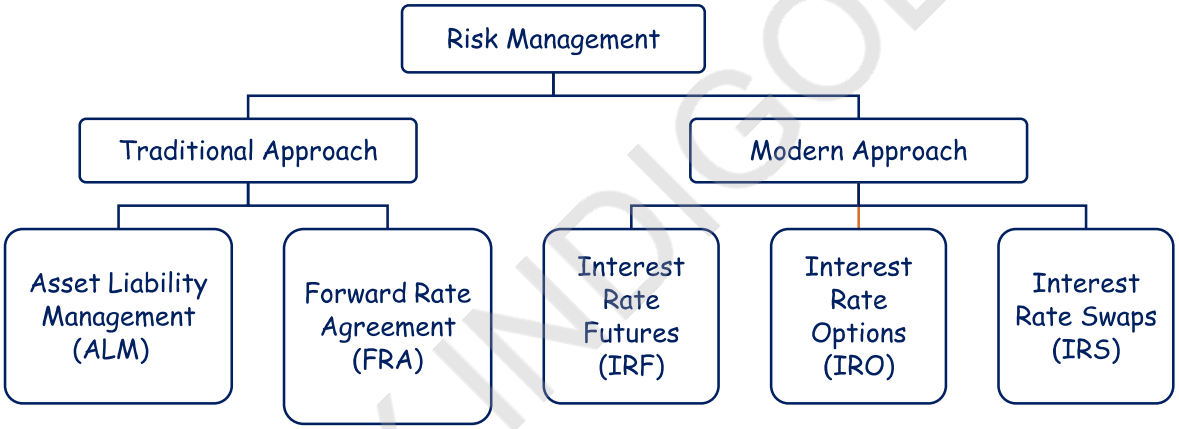
In India though there are many benchmark interest rates such as Repo Rate, Prime Lending Rate, MCLR (Marginal Cost of Lending Rate) etc. but most of the common benchmark rates are MIBOR (Mumbai Interbank Offered Rate) and MIBID (Mumbai Interbank Bid Rate). While MIBOR is that interest rate at which bank will charge from borrower, the MIBID is that rate at which bank would like to borrow from other bank.

These two rates are used in majority of derivative deals such as Interest Rate Swaps, Forward rate Agreement, Floating Rate Debentures etc.

Further it is also important to note that not only benchmark rates are used in various types of financial transactions as discussed above but they also form the basis for valuation of various financial instruments especially the Bonds and Debentures.

Q7. What are various ways to manage interest rate risks? **(Important)**

A. Interest rate risk management has become very important. There are two main approaches for managing the interest rate risk.



Q8. Explain How Asset Liability Management helps hedge interest rate risks? **(Important) (Past Exam)**

A. **Asset Liability Management (ALM)**

Asset-Liability Management (ALM) is one of the important tools of risk management in commercial banks of India. RBI has evolved the tool known as ALM.

Under this process, liabilities are paid off from assets and cash flows of a company in a such a way that its proper implementation reduces the risk of loss for not paying the liabilities on time. The objective is to never run short of money to meet liabilities and not have surplus money without earning return.

Banks need to implement strong asset-liability management to ensure that it can pay off its customer deposits at any given time. Banks and other financial institutions provide services which expose them to various kinds of risks like credit risk, interest risk, and liquidity risk. ALM addresses risks (interest, currency, inflation, financial and market) resulting from a mismatch of assets and liabilities. The risk managing team under ALM

evaluates the impact of business decisions on assets and liabilities and feeds inputs into the business decisions of the bank.

Q9. What is a Forward Rate Agreement and what are its main features? **(Important) (Past Exam)**

A. Forward Rate Agreement (FRA)

FRAs are over the counter (OTC) contracts between two parties (borrower and lender) that determine the rate of interest on a notional value to be paid on an agreed-upon date in the future. They are not traded.

A borrower fixes the borrowing costs today by entering into an FRA.

FRA is cash settled. The payment is based on the net difference between the interest rate of the contract and the floating rate in the market—the reference rate. The differential amount is discounted at post change (actual) interest rate as it is settled in the beginning of the period not at the end.

Borrower is a Fixed Rate Payer & Floating Rate Receiver
Lender is a Floating Rate Payer & Fixed Rate Receiver

Main Features of FRA

- used by banks to fix interest costs on anticipated future deposits or interest revenues on variable-rate loans indexed to Benchmark Interest Rate e.g. LIBOR, MIBOR etc.
- It is not accounted at the time of agreement, i.e. it's an off-Balance Sheet instrument.
- It is on notional value i.e. it doesn't involve actual exchange of the principal.
- It is settled at maturity in net cash representing the profit or loss on specified date. The underlying in the contract is interest.

Computation of Gain / Loss on FRA Settlement

$$Settlement\ Value = \frac{N(RR - FR)\left(\frac{dtm}{DY}\right)}{[1 + RR\left(\frac{dtm}{DY}\right)]}$$

where,

N = notional principal amount

RR = Reference Rate prevailing on the contract settlement date;

FR = Agreed-upon Forward Rate;

dtm = days of loan (FRA Specified period)

DY = Total number of days (360 or 365 days)

If **RR > FR**, then long FRA gains (i.e. borrower gains)

If **RR < FR**, then short FRA gains (i.e. lender gains)

Q10. What are interest rate futures and how are they traded in India? **(Past Exam)**

A. Interest Rate Futures (IRF)

IRF, unlike FRA is an exchange traded product. It is a contract, that allows the buyer and seller agree to the future delivery of a bond by locking in the price of the interest-bearing asset for a future date.

An IRF is a future contract with an underlying instrument I.e bond that pays interest. IRF is not a future on interest rate but on the bond

Futures use the inverse relationship between interest rates and bond prices to hedge against the risk of rising interest rates.

Someone who expects interest rates to rise in the future will sell a future today – When interest rates rise, the value of the future will fall (as it is linked to the underlying asset, i.e bond), and a profit can be made by squaring the original contract

Internationally, Bond futures have delivery-based settlement whereas IRFs are cash settled. But in India, both are same

Physical Delivery: Prior to 2014, in India IRF settlement was done by physical delivery which happens on any day in the expiry month. But presently, on expiry there is no exchange of underlying, but the contract is cash settled.

The bond mentioned in the IRF is not actual security but an artificial or notional security. But at the time of delivery, actual deliveries are used based on the Conversion Factor (CF) specified by the exchange.

(Conversion Factor) x (Price of IRF) = actual delivery price for a given deliverable bond.

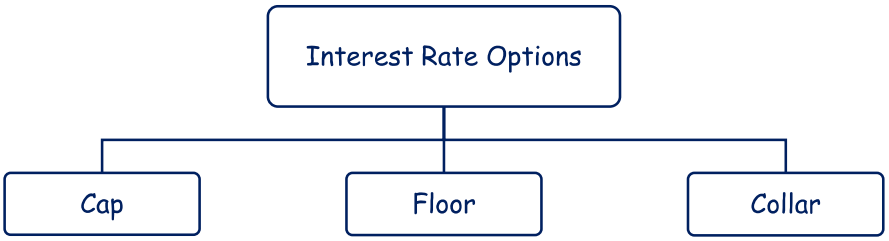
NSE will list out securities which can be delivered along with the conversion factors. The seller of the IRF decides which bond to deliver such that difference between the quoted Spot Price of bond and the Futures Settlement Price (adjusted by the conversion factor) is minimum if it's a loss and difference is maximum if it's a gain. Such a bond is called the Cheapest to Deliver (CTD) Bond.

Q11. What are interest rate options? **(Important)**

A. Interest Rate Options (IRO)

Also known as Interest Rate Guarantee (IRG), it is a derivative which gives the holder a right not an obligation, to pay a fixed rate and to receive a variable rate.

It allows firms to protect themselves against adverse interest rate movements while allowing them to benefit from favourable movements.



Q12. What are interest rate caps? **(Important)**

A. Interest Rate Cap

The buyer of an interest rate cap has the right to receive the difference in the interest cost on some notional principal amount any time a specified index of market interest rates rises above a stipulated "Cap Rate."

The buyer need not pay anything to seller if interest rates fall below the cap rate. Thus, a cap is like an option with a right rather than an obligation to the buyer. This is done for a premium paid by the buyer.

The key features of an interest rate cap are:

- Borrower has a floating rate borrowing, related to an interest rate benchmark say LIBOR, MIBOR, etc. for typically some specified maturity period; and the borrower wishes to restrict the interest rate obligation.
- Interest rate cap is entered into for a premium payable to the seller
- It is based on notional principal amount upon which interest payments are computed;
- It is cash settled and sometimes discounted to fixing date;
- The upper limit fixed as a cap rate is equivalent to a strike or exercise price of an option;
- Intervals between interest rate reset dates and scheduled payment dates typically coincide with the term of the benchmark interest rate. Payment amounts are determined by the value of the benchmark rate on a series of interest rate reset dates (caplets).

$$Payment = (N)\max(0, R_A - R_C).\frac{dt}{Days\ in\ year}$$

where

N - notional principal amount of the agreement,

R_A- actual spot rate on the reset date

R_C - cap rate (expressed as a decimal), and

dt is the number of days from the interest rate reset date to the payment date.

Q13. What are interest rate Floors? **(Important)**

A. Interest Rate Floor

It is an OTC instrument that protects the buyer of the floor from losses arising from a decrease in interest rates. The seller of the floor compensates the buyer with a pay off when the interest rate falls below the strike rate of the floor.

If the benchmark rate is below the floor rate on the interest rate reset date the buyer receives a payment of, which is equivalent to the payoff from selling an FRA at a forward rate. But if the index rate is above the floor rate the buyer receives no payment and loses the premium paid to the seller.

$$Payment = (N)\max(0, R_F - R_A).\frac{dt}{Days\ in\ year}$$

where

N - notional principal amount of the agreement,

R_A- Actual spot rate on the reset date

R_F - Floor rate (expressed as a decimal), and

dt is the number of days from the interest rate reset date to the payment date.

Q14. What are interest rate collars? **(Important)**

A. Interest Rate Collars

It is a specialized combination of a Cap and Floor. The purchaser of a Collar buys a Cap and simultaneously sells a Floor. It involves the simultaneous purchase of an interest rate cap and sale of an interest rate floor on the same index for the same maturity and notional principal amount. A Collar protects from adverse change in interest rates on both high side and the low side.

Long Collar – buying a cap & selling a floor.

Short Collar - buying a floor and selling a cap

Zero Cost Collar – Premium paid for Cap is equivalent to premium received for floor

The premium received from writing the call pays for the purchase of the put option.

Interest Rate Collar

$$Payment = (N)[\max(0, R_A - R_C) - \max(0, R_F - R_A)].\frac{dt}{Days\ in\ year}$$

where

N - notional principal amount of the agreement,

R_A- actual spot rate on the reset date

R_C - cap rate (expressed as a decimal),

R_F - Floor rate (expressed as a decimal), and

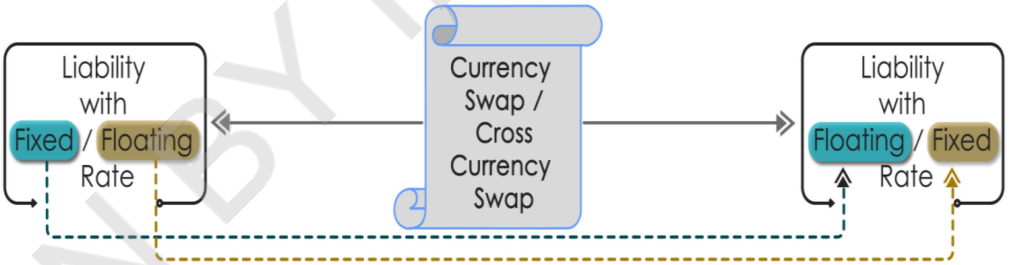
dt is the number of days from the interest rate reset date to the payment date.

Q15. What are interest rate swaps? **(Important)**

A. Interest Rate Swaps (IRS): It is a forward contract in which one stream of future interest payments is exchanged for another based on a specified principal amount.

Parties to IRS also known as swap counterparties agree to exchange payments indexed to two different interest rates. Payment is computed on notional principal amount of swap and net cash settlement is done.

It usually involves exchange of liability with fixed or floating rate for a liability with floating or fixed rate respectively.



And some swaps involve exchange of the currency also. Such a swap which involves currency is called Currency Swap or Cross Currency Swap It is used to hedge external commercial borrowings (foreign loans) that are exposed to both interest rate risks as well as exchange fluctuation risk.

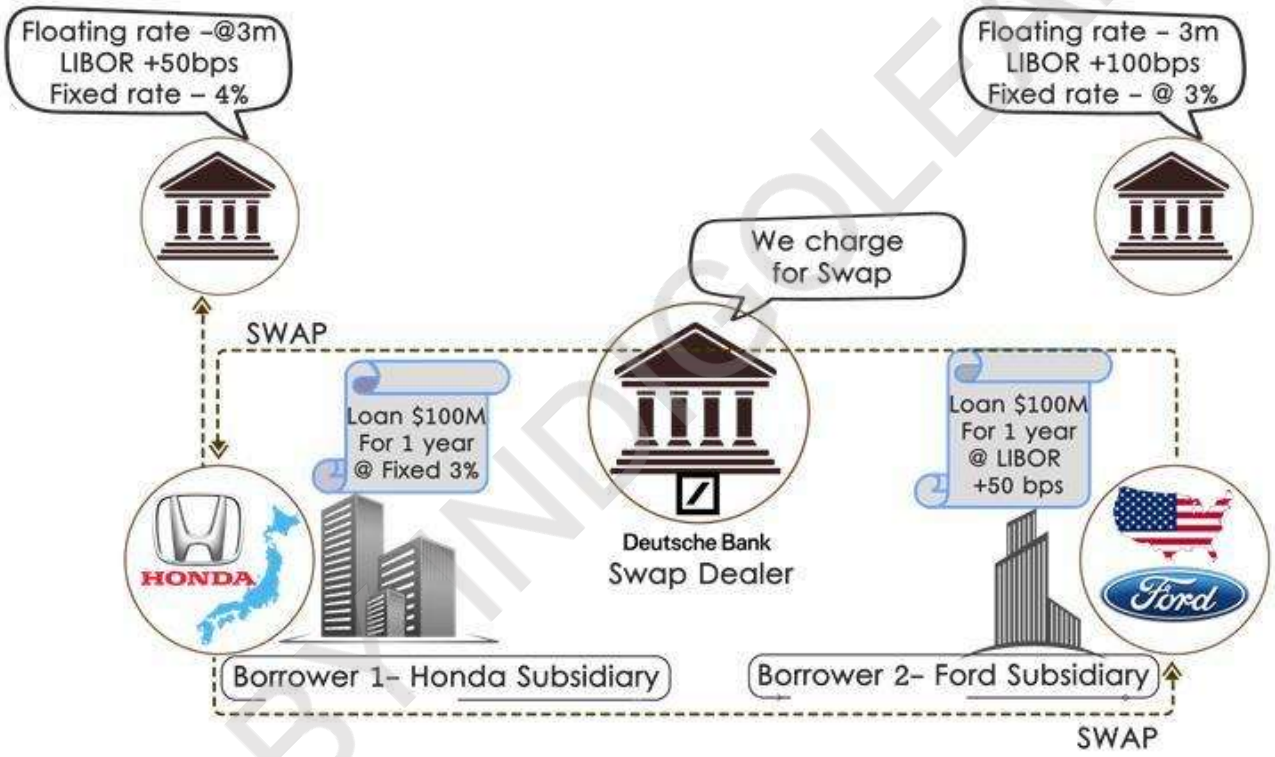
A Cross currency swap consists of

Coupon swap – interest related risk attributable to interest rate change and currency rate change is hedged

Principal swap – principal amount is hedged for currency rate change by converting from one currency to another

Mumbai Inter-bank Forward Offer Rate (MIFOR) Swap - MIFOR is a key benchmark used in the interest rate swap (IRS) markets. It a composite rate with the USD LIBOR and USD INR forward premia as its components. Essentially, the MIFOR represents the cost of borrowing in US dollars and swapping the same to INR, thus synthetically representing the domestic term interest rate.

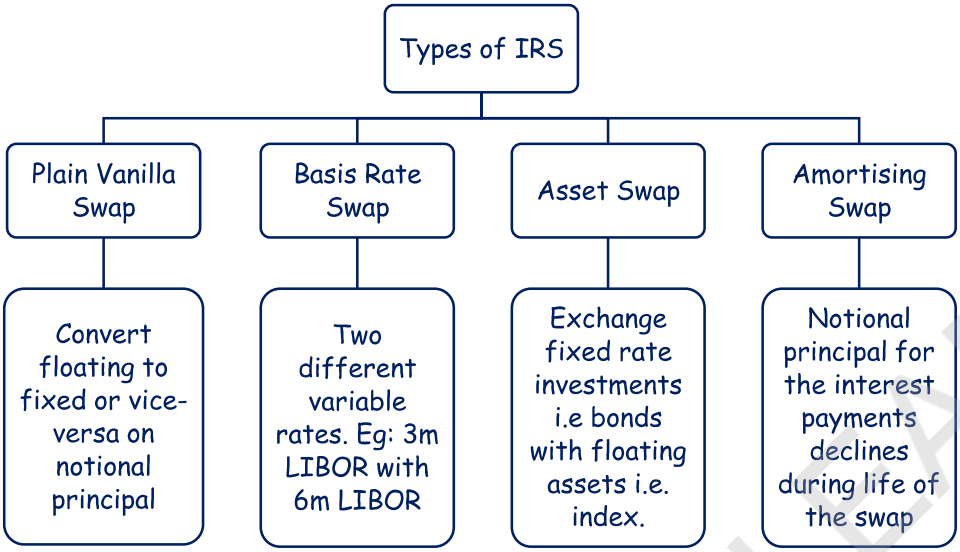
The swap dealer who facilitates this swap gets a brokerage fee as compensation from both the parties. The cost of the brokerage fee is considered to determine the overall benefit from the swap. The benefit from the swapping is shared / split between the parties as per the agreement.



The fixed interest rate is quoted as "All-in-Cost", which means that the fixed interest rate is quoted relative to a flat floating-rate index. Quoted interest rate is based on a 360-day year.

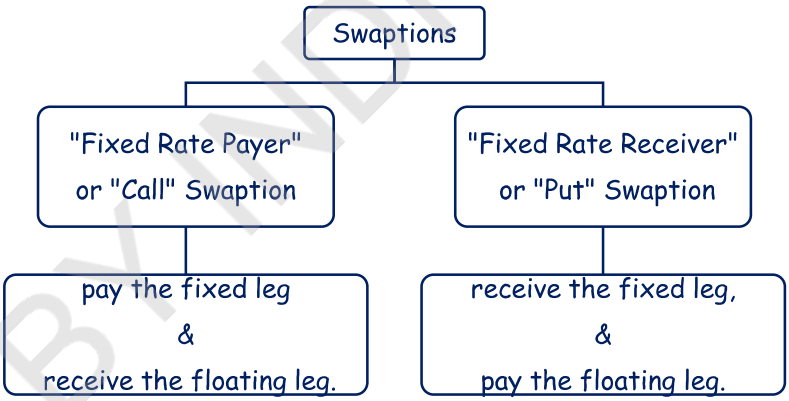
Q16. What are various types of IRS? **(Important)**

A.



Q17. What are various Swaptions? **(Important) (Past Exam)**

A. An interest rate swaption is simply an option to enter into an interest rate swap. It gives the holder the right but not the obligation to enter into an interest rate swap at a specific date in the future, at a particular fixed rate and for a specified term.



Key Features of Swaptions

- A swaption is effectively an option on a forward-start IRS, i.e exact terms like the fixed rate, the floating reference interest rate and the term are established upon conclusion of the swaption contract.
- A 3-month X 5-year swaption means an option to enter into a 5-year IRS, 3 months from now.
- The 'option period' refers to the time which elapses between the transaction date and the expiry date.
- The swaption premium is expressed as basis points.
- Swaptions can be net cash settled.

Uses of Swaptions

- It is useful to borrowers targeting on acceptable borrowing rate.

- Swap traders use for speculation purposes or to hedge.
- Useful to borrowers targeting an acceptable borrowing rate.
- Swaptions also provide protection on callable/puttable bond issues.

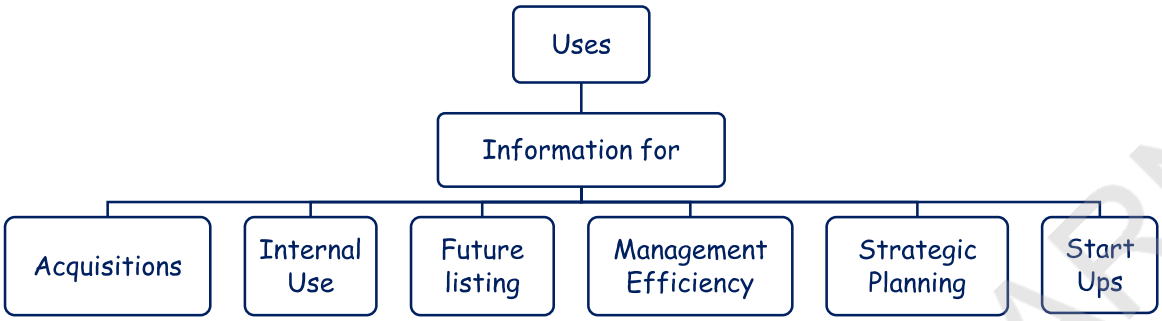
Pricing

Swaptions are priced using probability-based forecast of zero-coupon yield curve.

BUSINESS VALUATION 31Q|1PE

Q1. What is the need for Valuation of Corporate Entities? **(Important)**

A. Need for Valuation



Acquisition

Arriving at the correct valuation will ensure that the company has correct information on the company's fair market value and prevent capital loss due to lack of clarity or inaccuracies.

During an acquisition the value of the enterprise which is going to be acquired has to be determined to establish the modalities of payment / consideration (no. of shares to be issued or cash/ assets to be transferred) to be made.

Internal use

Stakeholders like employees, board of directors, members, bankers etc. need information about the company's value and net worth for efficient operations, procuring funds, credit rating, industry ranking, etc.

Future Public Listing

Any company planning to list its shares on stock exchange for public, needs to the valuation of the company from the point of view of investors to determine the realistic listing price per share.

Benchmark for Management Efficiency

Management needs information to know the value of the company in comparison with its competitors in the industry to ensure efficiency in its operations.

Strategic Planning

Having a current valuation of the business will give good information that will help make better business decisions. Every enterprise needs information to take strategic decisions – which Strategic Business Unit (SBU) is performing and generating cash, and which one is draining out the resources, should the company divest or integrate, etc. Valuation provides the information which helps the management in such strategic planning.

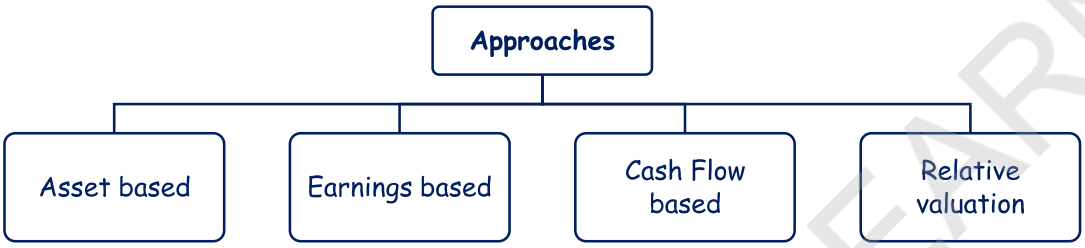
Start Ups

A startup company is a new business that is potentially fast growing. It needs funding to develop a business from their initial business model and to receive that funding, the company must project its value to the prospective investors and venture capitalists.

Q2. What are various types of Valuation? **(Important)**

A. Types of Corporate Valuation

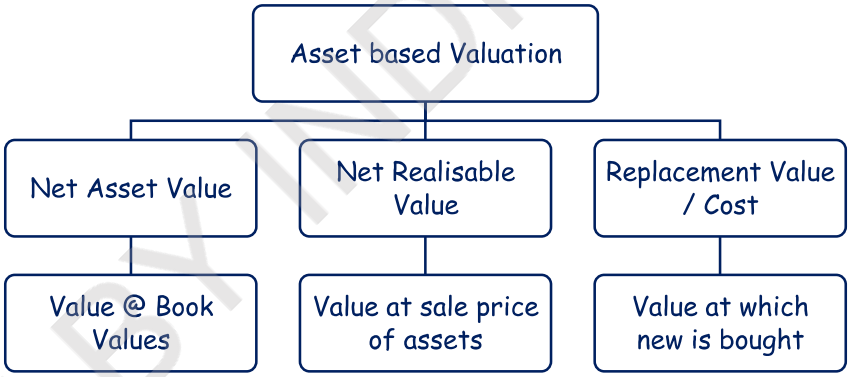
There are several methods available for calculating the value of a company. They can be broadly classified under four approaches as given below:



Q3. Explain the Asset Based approach to Valuation? **(Important)**

Asset Based Approach

An asset-based approach is a type of business valuation that focuses on a company's net asset value. Under this approach net assets are identified by subtracting liabilities from assets.



Under these methods the value of shares of target company is computed in terms of net assets acquired.

Net Asset = Fixed Assets + Net Current Assets – Long Term Debt

This method of valuation is not based on income generation rather than on income generating assets.

Net Asset Value Method

It's the simplest method which uses historical costs of the assets that are easily available.

But this ignores the current asset valuation even for intangible assets such as Brand, Intellectual Property Rights etc.

Net Realizable Value Method

It is also called Liquidation Value or Adjusted Book Value. Under this method realizable values of the assets are used for determining the valuation. This method is generally useful where the acquirer is interested in selling one part of business and integrate remaining part of the business with the existing operations.

Replacement Value

This method looks at the operating assets of a business and assigns a value based on what it would cost to replace them. This approach evaluates the cost of replacing the assets to achieve a commensurate output given the current state of technology in the industry.

Limitations of Asset based approach

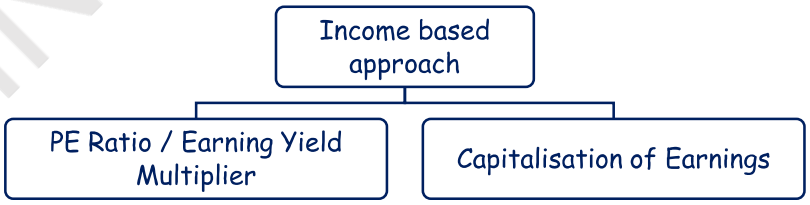
- Dependent on historical and irrelevant inputs
- Presumption of lot of tangible assets.
- Not suitable for intangible assets
- Doesn't consider future cash flows and operations
- This approach doesn't consider future revenues and how the market dynamics will affect the future operations and cash flow.
- Also, this method is least important in case of IT companies where 'hard' assets make little importance as these companies' assets are intellectual property rights and human resources.

Q4. Explain the Earnings / Income Based approach to Valuation? **(Important)**

A. Earnings / Income Based Approach

In the income approach of valuation, a business is valued at the present value of its future earnings. These are determined by projecting the earnings of the business and then adjusting them for taxes, cost structure, etc.

This method is more suitable when business is to continue for foreseeable future without selling or liquidating major assets.



PE Ratio or Earning Yield Multiplier

This method is generally used for valuing listed companies whose PE Ratios are available but PE Ratio of equivalent companies or the industry can be used to value the shares of the unlisted companies.

$$Value\ of\ Equity\ Share = EPS\ X\ PE\ Ratio$$

Capitalization of Earnings

Value of business under this method is calculated by capitalization of company's expected annual maintainable profit using appropriate required rate of return or yield or discounting rate

$$Capitalised\ Earning\ Value = \frac{Expected\ Annual\ Maintainable\ Profit}{Capitalisation\ Rate\ or\ Required\ Earning\ Yield}$$

Annual expected maintainable profit can be calculated using weighted average of previous years' profits after adjustments. Required earning yield could be computed using $\frac{1}{PE\ Ratio}$.

Limitations of Income based Approach:

- PE Ratio is mainly followed for listed companies
- PE Ratio of equivalent companies or the industry can be used to value the shares of the unlisted companies
- involves lot of judgement i.e., estimation of expected future profit
- difference in treatment of extra ordinary and exceptional items.
- If PE ratio and multiples are adjusted for the purpose based on practical judgements, Income Based Approach can give appropriate valuation.

Q5. Explain the Cash-Flow Based approach to Valuation? **(Important)**

A. Cashflow Based Approach

Cash flow approach considers free cash that is available in future periods.

FCFF = EBIT (1- tax rate) + Depreciation – Capex – Changes in working capital

FCFE = FCFF – Int (1 – Tax rate) + Net borrowings made in the period.

$$\boldsymbol{Value\ of\ Firm} = \frac{FCFF}{(1+WACC)}$$

$$\boldsymbol{Value\ of\ Equity} = Value\ of\ Firm - Value\ of\ Debt$$

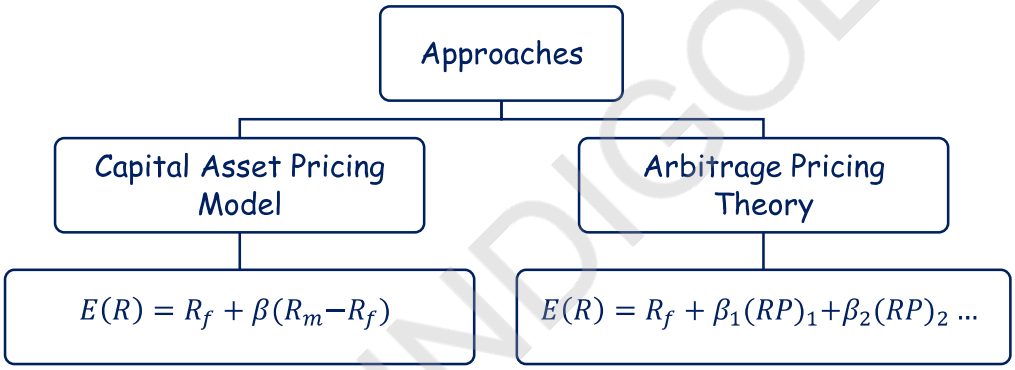
Under this, valuation is based on free cash projections for the business, and then "discounting" the future cash flows to today's value. This determines the current value of the business. This involves lot of complex projections.

Limitations

- Discount Rate (WACC) determination is very challenging especially the following factors
- Risk Free Rate
- Market return
- Systematic Risk (β)
- Terminal Value computation is not easy task

Q6. What are various approaches to cash flow based valuation?

A.



Q7. How is Beta of Unlisted companies calculated? **(Important)**

A. Estimating Beta and Valuation of Unlisted Companies

The asset beta or unlevered beta of the assets of a company represents systematic risks of the assets. The asset beta is the weighted average of debt beta and equity beta of the assets. It is also called unlevered beta because it can be determined from the equity beta. It neutralizes the effect of capital structure on a company's exposure to the systematic risk of the company.

$$Beta\ of\ Assets$$

$$\beta_a = \beta_e \left[\frac{E}{E + D(1-t)}\right] + \beta_d \left[\frac{D(1-t)}{E + D(1-t)}\right]$$

where,

β_a - Ungeared or Asset Beta

β_e - Geared or Equity Beta

β_d- Debt Beta

E - Equity, D - Debt, t - tax rate

Asset Beta represents only systematic risk. Equity Beta shall always be greater than Asset Beta. In case company is debt free then Equity Beta shall be equal to Asset Beta.

In Public Traded Companies, information about earnings, assets employed, future potential and growth are readily and easily available, hence the valuation approaches based on Assets, Earnings and Cash can be applied easily

Calculation of the 'value' of a privately held enterprise involves arriving at the Cost of Capital which in turn depends on Beta for the private firm, this whole process is a challenge as there is not enough information. Beta of a private firm needs to be unlevered β, unlike public firms which have levered β.

To determine the risk of a company without debt, we need to un-lever the beta (i.e., remove the debt impact).

In the above formula of

$$\beta_a = \beta_e W_e + \beta_d W_d$$

As far as debt beta is concerned, debt is considered to be risk free as compared to equity investment. Therefore, it is assumed to be zero when calculating the asset beta.

Thus,

$$\beta_a = \beta_e W_e = \beta_e \left[\frac{E}{E + D(1-t)}\right]$$

Consequently,

$$\beta_e = \beta_a * \left[1 + \frac{D}{E}(1-t)\right]$$

Beta must be unlevered or re-levered to arrive at whatever is the appropriate beta for the company which is being valued.

Q8. How is Equity Beta Computed?

A.

- Steps for computation of Equity Beta for a new of business or project for the company:
- Identify firms or companies (proxy companies) engaged entirely in same or similar business
- Identify equity beta of proxy companies
- Unlever the beta and compute asset beta of proxy companies
- If more than one proxy company exists, take average of asset betas of proxy companies or take the most appropriate asset beta
- Re-gear the asset beta based on the capital structure of valuing company using $\beta_e = \beta_a * \left[1 + \frac{D}{E}(1-t)\right]$
- Compute value of business using β_e in CAPM

Q9. Write a brief note on Relative Valuation? **(Important)**

A. Relative Valuation

Under Relative valuation model a company's value is compared to that of its competitors or industry peers to assess the firm's financial worth. It is an alternative to absolute value

models, which determine a company's intrinsic worth based on its estimated future free cash flows discounted to their present value. The absolute value models don't consider reference to another similar company or industry average.

The 'Relative valuation' or 'Valuation by multiples,' uses financial ratios to arrive at the desired metric (referred to as the 'multiple') and then compares the same to that of comparable firms.

- Steps to follow Relative Valuation
- Find out the 'drivers' that establish the relation between the two companies
- Find out the comparable firms i.e., those firms which have similar risk, reward, and structure,
- Perform the comparative analysis, and,
- ignore outliers, if any
- Determine correct matrix to arrive at EV

Q10. What are some of the common drivers used in Relative Valuation? **(Important)**

A. Common drivers

Some of the Common drivers that could be used in relative valuation are:

(a) Enterprise value-based multiples

$\frac{EV}{EBITDA}$ – most popular

$\frac{EV}{Sales}$ - used for early-stage companies without profits

$\frac{EV}{Capital\ employed}$, more appropriate to capital intensive enterprises

(b) Equity value-based multiples

PE Ratio – most popular

PEG Ratio $= \frac{PE\ Ratio}{Growth\ rate\ of\ EPS}$ – used by high growth companies

Assumptions inherent in the Relative Valuation Model

- Market is efficient
- Firms that are comparable are similar to structure, risk and growth pattern

Q11. What are some of the other approaches to Valuation? **(Important)**

A. Other Approaches

With businesses become exceedingly technology driven and managements now trying to position themselves as 'value creators' old methods of valuation are not appropriate anymore.

For new age companies and start-ups traditional methods will not be relevant as they cannot be used for valuing intangibles, brand value, users or customers.

Some of the concepts used in valuation have been borne out of the peculiarities of certain industries like

- Daily average users
- Gross Merchandise Value (GMV)
- Average Order value
- Price per page visited.
- Price per subscriber

Q12. What is LBO? **(Important)**

A. Leveraged Buyout (LBO)

A leveraged buyout (LBO) is the acquisition of another company using a significant amount of borrowed money to meet the cost of acquisition. These transactions typically occur when a private equity (PE) firm borrows as much as they can from a variety of lenders (as much as 70 or 80 percent of the purchase price) and funds the balance with their own equity.

The assets of the company being acquired are often used as collateral for the loans, along with the assets of the acquiring company i.e. the assets are all pledged. The purpose of leveraged buyouts is to allow companies to make large acquisitions without having to commit a lot of capital.

The use of leverage (debt) enhances expected returns to the private equity firm. PE Firms incentivise present management, ensure efficiency at all levels and re-establish the firm and then take it forward or sell for good value.

By putting in as little of their own money as possible, PE firms can achieve a large return on equity (ROE) and internal rate of return (IRR), assuming all goes according to plan. While leverage increases equity returns, the drawback is that it also increases risk

Major limitation is that this kind of financing is effective for organizations where future cash flows exhibit some amount of certainty. Companies that are mature, stable, non-cyclical, predictable, etc. can go for a leveraged buyout.

Q13. What is exit Multiples Method?

A. Exit Multiples

An exit multiple is one of the methods used to calculate the terminal value in a discounted cash flow formula to value a business. The method assumes that the value of a business can be determined at the end of a projected period, based on the existing public market valuations of comparable companies.

Analysts use exit multiples to estimate the value of a company by multiplying financial metrics such as EBIT and EBITDA by a factor that is similar to that of recently acquired companies.

Q14. What is Chop Shop Method?

A. Chop Shop Method

A company with different business segments which belong to various industries are valued separately from each other to ensure that the company as a whole is not undervalued.

Steps involved under this method are:

- Identify the industries to whom such business segments belong
- Calculate a value for each business segment based on appropriate drivers of each industry
- Aggregate the values of all segments
- Discount the aggregate value to determine the "chop-shop" value of the firm.

Q15. What is EVA? **(Important) (Past Exam)**

A. Economic Value Added (EVA)

EVA can also be referred to as economic profit, as it attempts to capture the true economic profit of a company. It measures the overall benefit to all stake holders.

It is a measure of a company's financial performance based on the residual wealth calculated by deducting its cost of capital from its operating profit, adjusted for taxes on a cash basis.

$$EAV = NOPAT - Capital\ Charge$$

$$= EBIT\ (1 - tax\ rate) - Invested\ Capital * WACC$$

where,

NOPAT = Net Operating Profit After Taxes

EBIT – Earnings before Interest and Tax

WACC – Weighted Average Cost of Capital

Invested Capital = Total Assets – Non Interest-bearing Liabilities

Note: Adjust EBIT and Invested Capital for non-cash charges (other than depreciation) like provisions for doubtful debts, P&L adjustments. Depreciation is not considered as it is an operational expense for the purpose of EVA.

The efficiency of the management gets highlighted in EVA, by evaluating whether returns are generated to cover the cost of capital. EVA is the residual that remains if the 'capital charge' is subtracted from the NOPAT. The 'residual' if positive simply states that the profits earned are adequate to cover the cost of capital.

Q16. What is MVA?

A. Market Value Added (MVA)

Market value added (MVA) is a calculation that shows the difference between the market value of a company and the capital contributed by all investors, both bondholders and shareholders i.e MVA is the Current Market Value of the firm minus the Invested Capital.

$$MVA = MV\ of\ E\ \&D - Invested\ Capital$$

where,

MV – Current Market Value

E – Equity

D – Debt

Invested Capital = Total Assets – Non Interest bearing Liabilities = Book value of Equity & Debt

MVA represents market views regarding company's future value generation. Companies with a higher MVA are preferred. It is a wealth metric used to measure the amount of capital that shareholders have invested in excess of the current value of the company. It determines whether the business has increased or decreased in value since its inception.

Q17. What is SVA?

A. Shareholder Value Analysis

NOPAT is a historical figure, which cannot fully represent the future earnings. Also, it doesn't capture the future investment opportunities (or the opportunity costs). Thus, EVA is not very appropriate to compute the value for investors. SVA overcomes this limitation.

The investment, business and financial decisions, both strategic and operational, are identified which have impact on creation of value for shareholders. The factors called 'value drivers' are identified which will influence the shareholders' value.

SVA is based on the logic that a business is worth the net present value of its future cash flows, discounted at the appropriate cost of capital. It provides a framework to link management decision and strategies to value creation.

Steps involved in SVA

- Arrive at the Future Cash Flows (FCFs) using 'value drivers'
- Discount FCFs using the WACC
- Add the terminal value to the present values computed
- Arrive at value of firm
- Reduce the value of debt and arrive at value of equity.
- Add surplus cash in Y0
- Add non-core investments

Q18. Write about the concept of Fair Value in Valuation?

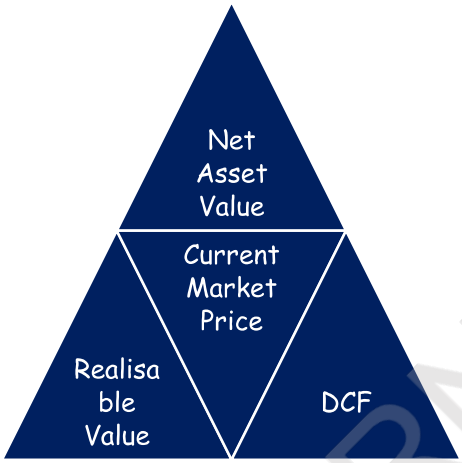
A. Fair Value

An investor likes to purchase anything at the fair value – 'no less no more'.

Everyone has a different perspective of fair value. It could be the broad measure of intrinsic worth or it could be a reference to the estimated worth of a company's assets and liabilities that are listed on a company's financial statement or is could also be the sale price agreed upon by a willing buyer and seller, assuming both parties enter the transaction freely and knowledgeably.

Every valuation method has its limitations and challenges. The investor, who is the ultimate decision maker decides and chooses the most suitable method for its purpose.

Sometimes no one method is correct and enough, its preferable if a range of values i.e. minimum acceptable by seller and maximum payable by the buyer could be determined. Considering all values, the most appropriate value is arrived, such a value is the Fair Value.



One of the objectives of a valuation exercise is to identify entities that are 'attractive' in terms of the true value to a potential investor.

- A Chartered Accountant's perspective to 'fair value' would automatically envisage a transaction to be measured at the arm's length.
- For a financial analyst, the term would be akin to the present value of an entity in cash terms, and
- For a speculative investor, the term would represent the arbitrage opportunities that open up among similar entities having dissimilar value numbers put to it.

The vision of the ultimate decision maker determines which method is suitable for his/ her purpose. Also, there is no single answer to method of valuation as correct one and it will be better if a range of values i.e. minimum acceptable by seller and maximum payable by the buyer could be determined. Ultimately the final deal would depend on the negotiation among the parties.

Accordingly, following approaches can be adopted to solve the question especially involving evaluation and synthesis skill assessment requirements.

(i) Unless specified otherwise calculate valuation by as many as possible with available data.

(ii) Give comments on the valuation by each of these methods.

(iii) Supplement your conclusion with any additional information if available.

Q 19. Elaborate on Going Concern And Non-Going Concern Valuation

One of the basic accounting assumptions is that an enterprise is a going concern and will continue in operation for the foreseeable future. Hence, it is assumed that the enterprise has neither the intention nor the need to liquidate or curtail materially the scale of its operations; if such an intention or need exists, the financial statements may have to be prepared on a different basis and, if so, the basis used needs to be disclosed.

The valuation of assets of a business entity is dependent on this assumption. Traditionally, historical costing is followed in majority of the cases.

Non-Going Concern Valuation is also known as Liquidation Valuation because it is the net value realised after disposing off all the assets and discharging all the liabilities. Since an on-going firm could continue to earn the profit, which contributes to its value in addition to its liquation value the Going Concern Value is known as Total Value.

Generally, the going-concern value of a firm will be greater than its liquidation value because when it is acquired as on basis the value of its assets and considers the value of its future profitability, intangible assets, and goodwill and hence the acquired firm can charge premium for the same.

Another reason for lower valuation on non-going concern is that liquation not only implies the laying off its employees and, but it creates a feeling of bad reputation among potential investors.

Thus, valuation based on non-going concern should be applied only when investors are of view that the firm has no longer value as a going concern.

Q 20 How does one value Distressed Companies?

Some firms are clearly exposed to possible distress, though the source of the distress may vary across firms. For some firms, it is too much debt that creates the potential for failure to make debt payments and its consequences (bankruptcy, liquidation, and reorganization) whereas for other firms, distress may arise from the inability to meet operating expenses.

A company is said to be in distress when the company is unable to meet, or has difficulty paying off, its financial obligations to its creditors, typically due to high fixed costs, illiquid assets, or revenues being sensitive to economic downturns. Such distress can lead to operational distress as increasing costs of borrowings take a toll on the operations of the company as well.

Distressed companies are businesses that are likely to, or already have defaulted on their debts. Although a company may not be making payments on some, or all of its debt obligations, however, there still may be some value remaining on the instruments they hold. Just because a company cannot make payments on its debt does not mean the company is entirely worthless.

Conventional methods are not usefully deployed when valuing companies in distress as:

Discounted cashflow valuation method requires terminal value calculation which is based upon an infinite life and ever-growing cashflows. However, the assumption of perpetuity of cash flows may not be relevant in case of distressed firm because of negative cash flows.

A distressed firm generally has negative and declining revenues hence expects to lose money for some more time in the future. For such firms, estimating cash flows is difficult, since there is a high risk of bankruptcy. For firms expected to fail, DCF does not work very well, since DCF values a firm as a going concern – even if the firm is expected to survive, projections have to be made until the cash flows turn positive, else the DCF would yield a negative value for equity or firm.

Discount rates used in conventional methods reflect companies which are operationally as well as financially sound. They have to be adjusted for the probabilities of failures of the companies to be used in case of distressed companies.

Q21. What are various Methods of valuation of distressed companies?

(a) Modified Discounted Cash Flow Valuation

This method requires coming up with probability distributions for the cashflows (across all possible outcomes) to estimate the expected cashflow in each period. While computing this cash flow the likelihood of default should be adjusted for. In conjunction with these cashflow estimates, discount rates are also estimated:

- Using updated debt to equity ratios and unlevered beta to estimate the cost of equity.
- Using updated measures of the default risk of the firm to estimate the cost of debt.

However, in case of inability to estimate the entire distribution, probability of distress shall be estimated for each period and used as the expected cashflow:

Expected cash flow t = Cash flow t * (1 - Probability of distress)

(b) DCF Valuation + Distress Value

A DCF valuation values a business as a going concern. However, DCF valuations will understate the value of the firm if there is a possibility that the firm will fail before it reaches stable growth, and the assets will be sold for a value less than the present value of the expected cashflows (a distress sale value).

Thus, the value of Distressed firm can be computing by following under-mentioned steps:

(i) Value the business as a going concern by looking at the expected cashflows it will have if it follows the path back to financial health = DCF Value of Equity
(ii) Determine the probability of distress over the lifetime of the DCF analysis.
(iii) Estimate the distress sale value as a percentage of book value or as a percentage of DCF value of equity estimated as a going concern.

Accordingly following formula can be used to calculate the value of equity of a distressed firm.

Value of Equity= DCF value of equity (1 - Probability of distress) + Distress sale value of equity (Probability of distress)

(C) Adjusted Present Value Model

This approach is based on the logic of separating investment decision from financing decision. Accordingly, first the value of firm is computed without debt (the unlevered firm) and then effect of debt on firm value is adjusted in the same:

Firm Value = Unlevered Firm Value + (Tax Benefits of Debt - Expected Bankruptcy Cost from the Debt)

While the first part can be computed by discounting the free cashflows to the firm at the unlevered cost of equity the second part reflects the present value of the expected tax benefits from the use of debt. The expected bankruptcy cost can be estimated as the difference between the unlevered firm value and the distress sale value:

Expected Bankruptcy Costs = (Unlevered firm value - Distress Sale Value)* Probability of Distress

(D) Relative Valuation

Relative Valuation multiples such as Revenue and EBITDA multiples are used more popular measures to value distressed firms than healthy firms because multiples such as Price Earnings or Price to Book Value etc. often cannot even be used for a distressed firm. Analysts who are aware of the possibility of distress often consider them subjectively at the point when they compare the multiple for the firm they are analysing to the industry average. For example, assume that the average telecom firm trades at 2 times revenues. So, adjust this multiple down to 1.25 times revenues for a distressed telecom firm.

Q 22. How does one Value Start-ups?

A. Following are three most common globally accepted methods of valuing a business:

(i) Earning/ Cash Flow Approach: In this approach, estimated cash flows for the foreseeable future are discounted to present value and business is valued accordingly.

(ii) Asset approach: This approach is generally used when the business is not a going concern viz. during liquidation, untimely losses etc. The assets and liabilities are valued based on their current realisable value and that is considered as value of the business.

(iii) Market approach: This approach assigns the value of a business based on the value of comparable companies in same/ similar industries, adjusted for their specific parameters.

One common feature in the above approaches is that it pre-supposes a business that is established and generates cash flows using its assets.

On the contrary it is difficult to call Start-ups "established" in any sense or assume that their cash flows (if not already spent on marketing) will remain constant. Profitability seems to be a cursed word in the startup investor circles.

Like the valuation of startups is often required for bringing in investments either by equity or debt. However, the most significant differentiating factor in the valuation of a startup is that there is no historical data available based on which future projections can be drawn.

The value rests entirely on its future growth potential, which, in many cases, is based on an untested idea and may not have been based on an adequate sampling of consumer behaviour or anticipated consumer behaviour. The estimates of future growth are also often based upon assessments of the competence, drive, and self-belief of, at times, very highly qualified and intelligent managers and their capacity to convert a promising idea into commercial success.

The major roadblock with startup valuation is the absence of past performance indicators. There is no 'past' track record, only a future whose narrative is controlled based on the founders' skill. It can be equated as founders walking in the dark and making the investors believe that they are wearing night vision goggles. While this is exciting and fun for the founders, this is risky for the investors.

This is why valuation of startups becomes critical and the role of a professional comes in – it is a way of definitively helping investors navigate the dark using facts, rather than fairy tales.

Q 23. Why traditional methods cannot be applied in valuing Startups ?

Each of the commonly used methods discussed above pre-suppose an established business – which is profitable, has established competitors and generates cash using its assets.

However, this is missing in new age startups whose value can lie majorly in the concept and potential rather than numbers with a track record.

The failure of each of the traditional methods in case of new age startups is given below:

Income approach: A vast majority of startups operate under the assumption of not generating positive cash flows in the foreseeable future. Off late, this business model has been accepted and normalised by the investor community as well. Since there are no or minimal positive cash flows, it isn't easy to value the business correctly.

Asset approach: There are two reasons why this approach does not work for new age startups:

(i) Startups have negligible assets because a large chunk of their assets are in the form of intellectual property and other intangible assets. Valuing them correctly is a challenge and arriving at a consensus with investors is even more difficult.

(ii) Start ups are new, but usually operate under the going concern assumption; hence their value should not be limited to the realisable value of assets today.

Market approach: New-age startups are disruptors. They generally function in a market without established competitors. Their competition is from other startups working in the same genre. The lack of established competitors indicates that their numbers may be skewed and not be comparable enough to form a base. However, out of the three traditional approaches, we have seen a few elements of the market approach being used for valuing new-age startups, especially during advanced funding rounds.

Q24. What are Value Drivers for startups?

While every startup can be vastly different, a few key value drivers and their impact on the valuation of a startup are given below:

Drivers	Impact on valuation
Product	The uniqueness and readiness of the product or service offered by significantly impact the company's valuation. A company that is ready with a fully functional product (or prototype) or service offering will attract higher value than one whose offering is still an 'idea'. Further, market testing and customer responses are key sub-drivers to gauge how good the product is.
Management	More than half of Indian unicorn startups have founders from IIT or IIM. While it may seem unfair prima facie, it is a fact that if the founders are educated from elite schools and colleges, the startup is looked upon more favourably by the investors and stakeholders alike. Accordingly, it is imperative to consider the credentials and balance of the management. For instance, a team with engineers is not as well balanced as a team comprising engineers, finance professionals and MBA graduates. Keeping aside the apparent subjectivity in evaluating the management, the profile of the owners plays a crucial role in valuing the startup.
Traction	Traction is quantifiable evidence that the product or service works and there is a demand for it. The better the traction, the more valuable the startup will be.
Revenue	The more revenue streams, the more valuable the company. While revenues are not mandatory, their existence is a better indicator than merely demonstrating traction and makes the startup more valuable.
Industry attractiveness	The industry's attractiveness plays a vital role in the value of a company. As good as the idea may be, to sustainably scale, various factors like logistics, distribution channels and customer base significantly impacts the startup value. For example, a new-age startup in the tourism industry will be less valuable, as innovative or unique as their offering is if significant lockdowns are expected in the future.
Demand - supply	If the industry is attractive, there will be more demand from investors, making the industry's individual company more valuable.
Competitiveness	The lesser the competitors, the more valuable the startup will be. There is no escaping the first-mover advantage in any industry. While it is easier to convince investors about a business that already exists (for example, it must have been easier for Ola to convince investors when Uber was already running successfully), it also casts an additional burden on the startup to differentiate itself from the competition.

Q25. What are Various methods for valuing startups?

There are many innovative methods for valuing startups that try to reduce the subjectivity in the valuation of startups that have come in recent times as detailed below:

A. *Berkus Approach*

The Berkus Approach, created by American venture capitalist and angel investor Dave Berkus, looks at valuing a startup enterprise based on a detailed assessment of five key success factors:

(1) Basic value,

(2) Technology,

(3) Execution,

(4) Strategic relationships in its core market, and

(5) Production and consequent sales.

A detailed assessment is carried out evaluating how much value the five critical success factors in quantitative measure add up to the total value of the enterprise. Based on these numbers, the startup is valued.

This method caps pre-revenue valuations at $2 million and post-revenue valuations at $2.5 million. Although it doesn't consider other market factor, the limited scope is useful for businesses looking for an uncomplicated tool.

B. *Cost-to-Duplicate Approach*

The Cost-to-Duplicate Approach involves taking into account all costs and expenses associated with the startup and its product development, including the purchase of its physical assets. All such expenses are considered determine the startup's fair market value based on all the expenses. This approach is often criticized for not focusing on the future revenue projections or the assets of the startup.

(C) Comparable Transactions Method

With the traditional market approach, this approach is lucrative for investors because it is built on precedent. The question being answered is, "How much were similar startups valued at?"

For instance, imagine XYZ Ltd., a logistics startup, was acquired for Rs 560 crores. It had 24 crore, active users. That's roughly Rs 23 per user.

Suppose you are valuing ABC Ltd, another logistics startup with 1.75 crore users. ABC Ltd. has a valuation of about Rs 40 crores under this method.

With any comparison model, one needs to factor in ratios or multipliers for anything that is a differentiating factor. Examples would be proprietary technologies, intangibles, industry penetration, locational advantages, etc. Depending on the same, the multiplier may be adjusted.

(D) Scorecard Valuation Method

The Scorecard Method is another option for pre-revenue businesses. It also works by comparing the startup to others already funded but with added criteria.

First, we find the average pre-money valuation of comparable companies. Then, we consider how the business stacks up according to the following qualities.

- Strength of the team: 0-30%
- Size of the opportunity: 0-25%
- Product or service: 0-15%
- Competitive environment: 0-10%
- Marketing, sales channels, and partnerships: 0-10%
- Need for additional investment: 0-5%
- Others: 0-5%

Then we assign each quality a comparison percentage. Essentially, it can be on par (100%), below average (<100%), or above average (>100%) for each quality compared to competitors/ industry.

For example, the marketing team has a 150% score because it is thoroughly trained and has tested a customer base that has positively responded. You'd multiply 10% by 150% to get a factor of .15.

This exercise is undertaken for each startup quality and the sum of all factors is computed. Finally, that sum is multiplied by the average valuation in the business sector to get a pre-revenue valuation.

(E) First Chicago Method

This method combines a Discounted Cash Flow approach and a market approach to give a fair estimate of startup value. It works out:

- Worst-case scenario
- Normal case scenario
- Best-case scenario

Valuation is done for each of these situations and multiplied with a probability factor to arrive at a weighted average value.

(F) Venture Capital Method

Venture capital firms seek a return equal to some multiple of their initial investment or will strive to achieve a specific internal rate of return based on the level of risk they perceive in the venture.

The method incorporates this understanding and uses the relevant time frame in discounting a future value attributable to the firm.

The post-money value is calculated by discounting the rate representing an investor's expected or required rate of return.

The investor seeks a return based on some multiple of their initial investment. For example, the investor may seek a return of 10x, 20x, 30x, etc., their original investment at the time of exit.

New-age startups are disruptors and a necessary tool for global innovation and progress which disrupt set processes and industries to add value. They transcend traditional indicators of success like revenues, profitability, asset size, etc. Accordingly, it is no mean feat to uncover the actual value of a startup. There is no shortage of new innovative methods used to value startups based on their value drivers. However, the valuation of a startup is much more than the application of ways – it is about understanding the story of the future trajectory and communicating that narrative using substantial numbers.

Q 26. What are Digital Platforms & What are various types of Digital Platforms?

A. A digital platform is a software based online infrastructure that facilitates interactions and transactions between users. Principally platforms are built to facilitate many to many interactions. A few illustrations based on the kind of services provided are as under:

Category	Descriptions
Marketplace	Multiple buyers are matched to multiple suppliers. **For example:** Booking.com connects guests to hotels, while Uber links travelers to drivers, Amazon connects sellers and buyers through its platform.
Search engine	Multiple people looking for information are matched to multiple sources of information. As a search request triggers the system to actively seek out the desired information, it is also called a search engine. **For example:** Google, Bing, and Baidu
Repository	Multiple suppliers 'deposit' their materials into a type of library, to be retrieved by users at a later moment. **For example:** Spotify, YouTube, GitHub
Digital communication	Multiple users to send messages and/or documents to a variety of other people, or interact in real time via voice as well as video. **For example:** Whatsapp, Microsoft Teams, Telegram, Slack etc are internet-based communication platforms.
Digital community	On a digital community platform, people who want to remain virtually connected for a longer period of time can find each other and interact. **For example:** Facebook lets one build one's own network of friends, LinkedIn plays a similar role in the business context.
Payments Platform	On a digital payment platform, matching takes place between those owing money and those wanting to be paid. **For example:** Paytm, GPay, are directed at online consumers and facilities payments across vendors.

Q27. How are Digital Platforms Valued?

A. Income Approach

Valuation methods under the Income Approach lay emphasis on projected financial performance which takes into consideration future revenues and costs using company specific revenue and cost drivers and applicable capital expenditure and working capital cycles.

Steps in Backward working required under the Top-Down Approach

Step 1: Analysis of the total potential market for the Platform on a global or domestic level - referred to as Total Addressable Market ('TAM').

Step 2: Estimate the share in this target market, the company estimates to gain in the future, and the time to reach such share - referred to as Serviceable Addressable Market ('SAM') and Serviceable Obtainable Market ('SOM').

Step 3: Estimate its business plan to accomplish its objectives and the strategy for estimating the way the company will gain market share and increase its revenues while optimizing cash or utilizing cash. The financial forecast should take into consideration the types and features of the business model of the platform.

A digital repository which allows streaming of content may earn revenue based on its subscribers while a payments solution platform may earn revenues based on the number of transactions done using the same. The direct operating costs for these types of platforms shall also be unique to each type of platform or platform business.

In the digital platform's businesses, in order to attain greater market share and popularize the platform among end users, companies have to resort to penetrative strategies by burning cash on books at lower margins. The cash requirement is expected to reduce with time as profit margins become stable and the rate of reinvestment reduces.

The Top-Down Approach can be ambitious for a company at a nascent stage as estimating market size and market share poses its practical challenges.

Bottom-Up Approach: In this the Platform can estimate its earnings based on the limited resources it has. A young Platform can estimate its revenue and costs given its financial constraints. The promoters of such platform can deploy appropriate strategies to target high margin sales and cost cutting methodologies to generate more cash for the Platform. This is more in line to making efficient capital budgeting decision, which will ultimately help to forecast earnings and cash flows.

Under both the scenarios i.e Top-Down or Bottom-up, the value of a digital platform will depend on the quality of the financial forecasts. In the digital platform the growth and survival of an entity is highly dependent on its promoters, investors and stakeholders creating products or services that fill or meet a need in the market, and their capability to execute their products and services efficiently by adapting to unexpected circumstances.

Discounting Rate: The discounting rate used should be based upon the type of cash flows being discounted. The free cash flow to the Firm ('FCFF') should be discounted using the Weighted Average Cost of Capital ('WACC') and the free cash flow to Equity should be discounted at the Cost of Equity Capital ('Ke'). CAPM can be used to calculate the Cost of

Equity which is calculated as under: R = rf + β (rm- rf); R = expected rate of return rf = risk free rate of return β = Beta value of the stock rm = market rate of return

Specific considerations

(a) Beta measures the sensitivity of a stock or company to the market. Practically, the beta of a company is estimated based on the sensitivity of the share price of the stock, its comparable or the industry with respect to the market. Due to the unique nature of each digital platform and scarcity of listed traded comparable, estimating beta becomes challenging. One might need to draw a comparison between the general diversified sector, the industry driving the revenue or international comparable.

(b) The survival of such a digital platform is highly dependent upon the quality of management, ability to adapt to change quickly, and foresee opportunity.

Thus, there are certain specific risks of a digital platform that cannot be estimated using CAPM with regard to only the industry or general sector beta. A Company Specific Risk Premium ('CSRP') or Alpha needs to be estimated and added to determine the appropriate cost of equity used to discount the estimated cash flows. The CSRP for nascent companies would be higher than mature digital platforms with adequately large operations having a large customer base.

(B) Market Approach

The Market Approach values a company by drawing a comparison from similar valued companies based on multiples like profit to earnings ('P/E') ratio, Enterprise Value to Earnings before Interest, Tax, Depreciation and Amortization ('EV/EBITDA') ratio, Price to Book Value ratio, Price to Revenue/Sales Ratio. The selection of comparable to draw such comparison is vital and parameters like the market capitalization, revenue, Profit margins, capital structure etc. are used while making the selection.

However, in case of digital platform, such comparison becomes difficult due to the following reasons:

- The listed comparable are scarce and even absent for many platforms.
- The underlying value specifically Profit and EBITDA may be negative for certain digital platforms.
- Such digital platforms are capital-lite making their Book Value very low.

Due to the above complexity, the application of Market Approach for digital platform, lays emphasis on revenue of a digital platform. Comparison is sought on the manner the platform envisages its primary driver of revenue.

Category of Digital Platform	Drivers of Revenue
Marketplace (Matching Supply and Demand)	No of Booking made, No. of registered users, volume of Transactions

Payment (Matching Billing and Payments)	No of active subscriber, No. of merchants registered on the platform, Compatibility and speed of the operating system, Security, Ease of Use
Community (Network of Contacts)	Number of users, subscription fees, platform for professionals
Communication (Network for Messaging)	Number of users, sponsored links, advertising revenue
Repository (Supply Library)	Number of readers and contributors, authenticity of data, duration of use, quality and variety of data
Search (Machine Queries and Information)	Number of users, relevant search results, time taken per search

Two Search engines can be compared based on their total number of active users and the average time taken to show relevant search results. The one with more relevant search results in shorter time, shall be valued at a premium and can be used as a base for comparison.

For a repository platform that seeks to draw subscription or advertising revenue based on the number of times the content is viewed on its platform and the duration of such visit, comparison can be drawn based upon the number of users, the average number of views per user and the average revenue per user.

Example: A Search engine platform Company valued at 100.00 Cr with a subscriber base of 50 million users and content of 10000 hours can be used to draw a comparison while valuing a similar platform with fewer users however having same or similar revenue parameters.

(C) Cost Approach

The Cost Approach estimates the value based on the total cost incurred to build the same platform or similar platform with the same utility. Since, the asset behind the digital platform is the code written, the numbers of hours spent to write the code by the developers is the primary cost of the platform. However, this approach may not be most appropriate as it fails to consider the revenue generating capacity of the digital platform which may create significantly higher value for the shareholders of the company versus the cost spent on developing the platform.

The valuation of digital platform can be tricky based on the peculiarities as mentioned above. However, the fundamentals of valuation remain the same. The understanding of the business, the revenue model, the quality of management, and the risk-reward parameters determine the value of the digital platform.

Q28. How does one Value Professional/ Consultancy Firms? **(Important)**

The professional services firms can be defined as firms that provide customized, knowledge-based services to clients such as Chartered Accountants, Advocates, Management Consultancy firms etc. Even within industry firms vary significantly due to the different nature of services each firm provides.

Like any other business valuation understanding the present and projected industry trends plays a significant role in determining an accurate valuation amount but experts generally look at the firm's historical data to compare them with industry Key Performance Indicators (KPIs) and benchmarks. Further, generally valuation experts compare the company against its competitors. The main source of information are Audited Annual Statements and Income Tax Returns etc.

When using the income approach while historical data is important, projected growth (Terminal Value) also impacts the overall value. Although Valuation experts plan for future growth and compare it to the projected trends after conversations with management but there is an inherent risk associated with using future earnings potential, as results may or may not materialize. Hence, this risk should be factored into the overall calculation.

In addition to analysis of financial statements and their comparison to industry standards, normalisation of net income and cash flows is another important aspect. This step allows comparison of firms on equal footing. This step involves adding back of non-cash items and specific items, which might not apply to a new firm. Then these normalized cash flows are applied to the chosen valuation method and used in calculating overall value.

One commonly used method to analyse the extent that a firm meets expectations in comparison to current industry benchmarks and KPIs. Since professional services includes several different types of firms, KPIs can vary greatly and hence it is equally important to look at specific indicators which align with acquirer firm's goals.

To accurately value a professional services firm each piece of information contributes importantly.

Q29. What is ESG?

Environmental, Social, Governance (ESG) is a framework designed to be embedded into an organization's strategy that considers the needs and ways in which to generate value for all organizational stakeholders (such as employees, customers and suppliers and financiers).

Illustrative list of contents included in these three factors are as follows:

Environmental	Social	Governance
Climate change	Employee development	Board Independence
Water	Diversity & inclusion	Board diversity
Waste generation	Community development	Anti-Corruption & Bribery
Emissions	Health & Safety	Tax transparency

Biodiversity	Customer	Ethical conduct

ESG is on the radar of several investors today. Focusing on ESG issues can bring out risk and opportunities for the company's ability for sustainable value creation. The key environmental aspects under consideration are climate change and natural resource scarcity. It covers social issues like diversity and inclusivity, labor practices, health & safety, and cyber security. There is greater emphasis on governance aspect covering topics like board diversity and independence, executive pay, and tax transparency.

Q 30. Summarize key developments in the ESG Space

- Investment pace in ESG funds: ESG funds tapped more than $ 50 billion in 2020 and total assets with ESG focus crossed more than $35 trillion.
- Green bonds have been of significant focus: The green bonds market in 2020 crossed a major milestone of $ 1 trillion dollars.
- Sustainability taxonomy on the rise: Key regions have already defined sustainability taxonomy for e.g. European Union (EU). Several other countries / region are in process of introducing taxonomy related to sustainability / ESG.
- Up next - Convergence of ESG framework: IFRS launched an important work to develop single global reporting standard on ESG.
- SEBI - SEBI (Securities Exchange Board of India) in February 2023 proposed a regulatory framework on ESG disclosures by listed entities.

The ESG performance and linked ratings have begun to play an influencing role for companies going to market to raise funds for future growth. The high ESG focus from investors, lenders and financial institution in the recent times has reached the tipping point and have started to impact the financing options for companies. Companies with high ESG focus stand to get benefits in the form of preferential / lower cost of debt or access to specialized financial products like the Green, Social and Sustainability linked Bonds.

Traditional belief was that ESG was 'good to have' in business ethics, sustainability, diversity, and community. However, with the heightened interests from different stakeholders groups, directors realise that it is now moving into the 'must-to-have' territory. The business case for ESG generally begins with operational efficiency and risk reduction as primary goals and then extends to longer-term operational and organizational resiliency and sustainability. Boards recognize the strong and direct link to build a profitable business with a strong focus on environmental and social considerations. They also know that focus on ESG issues requires robust governance practices which will fortify their company's portfolio as a strong contender with investors and shareholders.

Now question arises how the risks of ESG factors can be incorporated in the Valuation of any business. As mentioned earlier the most popular technique of valuing any business is discounting of Future Cash Flows. Accordingly, the impact of these risks can be incorporated either in discount rate or expected cash flows.

Generally, management and investors are more interested in adjusting discount rate by inclusion of risk premium in the same. Even though this approach is more practical but the impact of ESG factors may not be that much explicit. Hence adjustment of ESG factors in cash flows would be more explicit.

Q31. How can impact of each factor can be incorporated in computation of expected cash flows? **(Important)**

(i) E of ESG: The risk of this factor (Environment) can be incorporated by carrying out 2-degree scenario analysis i.e. if temperature of the planet is increased by 2 degrees. Similarly, adjustment in cash flows can be made by considering carbon points.

(ii) S of ESG: The risk of this factor (Social) can be considered by adjusting the impact of social measures cost on the revenue such as better labour working conditions, CSR, and other welfare measures for the various stakeholders.

(iii) G of ESG: The risk of this factor (Governance) can be considered by adjusting the impact of poor governance on revenue in the form of penalty, fines, taxes etc.

MERGERS AND ACQUISITIONS AND CORPORATE RESTRUCTURING 26Q|0PE

Q1. What is an acquisition?

A. Acquisitions are situations where one player buys out the other to combine the bought entity with itself. It may be in form of

- a purchase, where one business buys another (or)
- a management buyout, where the management buys the business from its owners.

Q2. What is amalgamation?

A. The term amalgamation contemplates two kinds of activities.

- Absorption and blending of one by the other (or)
- Two or more companies join to form a new company.

Q3. What is Demerger?

A. A demerger is a form of corporate restructuring in which the entity's business operations are segregated into one or more components.

Q4. What is a cross border merger?

A. A cross border merger is a merger of two companies that are in different countries. A cross border merger could involve an Indian company merging with a foreign company and vice versa.

Q5. What is Rationale for Mergers and Acquisitions?

A. **Synergistic Operating Economies**

$$V(AB) > V(A) + V(B)$$

Synergy is the increase in performance of the combined firm over what the two firms are already expected or required to accomplish as independent firms.

Reasons for synergy benefits:

Increase in efficiency of the merged company

For Example: One company can have good networking of branches and another company may have an efficient production system. Thus, the merged company will be more efficient than individual companies.

Economies of Scale

Large-scale production results in lower average cost of production

Diversification

In the case of a merger between two negatively correlated companies, there will be a higher reduction in business risk in comparison to companies having income streams that are positively correlated to each other.

Taxation

The provisions of set-off and carry forward of losses as per Income Tax Act may be another strong reason for the merger and acquisition. Thus, there will be Tax savings or reduction in the tax liability of the merged firm. Similarly, in the case of acquisition, the losses of the target company will be allowed to be set off against the profits of the acquiring company.

(Section 72A & Section 72AA)

Growth

The merger and acquisition mode enables the firm to grow at a rate faster than the other mode viz., organic growth.

Consolidation of Production Capacities and increasing market power

Market power increases due to a reduction in competition. Further, production capacity is increased by the combination of two or more plants.

Managerial Talent

Managerial talent is the single most important instrument in creating value by cutting down costs, improving revenues and operating profit margin, cash flow position, etc.

Many a time, executive compensation is tied to the performance in the post-merger period

Q6. What are objectives of Amalgamation?

A. **Objectives of Amalgamation:**

Some of the objectives for which amalgamation may be resorted to are

- Horizontal growth to achieve optimum size, enlarge the market share, curb competition, or use unutilised capacity.
- Vertical combination with a view to economising costs and eliminating avoidable sales-tax and/or excise duty.
- Diversification of business
- Mobilising financial resources by utilising the idle funds lying with another company for the expansion of business.
- Merger of export, investment, or trading company with an industrial company or vice versa with a view to increasing cash flow.
- Merging subsidiary company with the holding company with a view to improving cash flow.
- Taking over a shell company which may have the necessary industrial licences etc., but whose promoters do not wish to proceed with the project.
- An amalgamation may also be resorted to for the purpose of nourishing a sick unit in the group and this is normally a merger for keeping up the image of the group.

Q7. What are various forms of Mergers?

A. **Forms of Mergers**

The following are major types of mergers

Horizontal Merger

The market share of the merged entity would be larger as both the companies which have merged are in the same industry. These types of mergers will also reduce competition in the market.

Vertical Merger

This merger happens when two companies that have a 'buyer-seller' relationship (or potential buyer-seller relationship) come together.

Conglomerate Merger

These mergers involve firms engaged in an unrelated types of business operations. These mergers typically occur between firms within different industries or firms located in different geographical locations.

These mergers lead to unification of different kinds of businesses under one flagship company. The purpose of the merger remains the utilization of financial resources, enlarged debt capacity and synergy of managerial functions.

Congeneric Merger

A congeneric merger is a type of merger where two companies are in the same or related industries or markets but do not offer the same products. The acquired company represents an extension of the product line, market participants or technologies of the acquirer.

Reverse Merger

Such mergers involve the acquisition of a public (Shell Company) by a private company, as it helps a private company to bypass lengthy and complex processes required to be followed in case it is interested in going public.

Acquisition

This refers to the purchase of controlling interest by one company in the share capital of an existing company. This may be by:

- An agreement with the majority holder of Interest.
- Purchase of new shares by private agreement.
- Purchase of shares in an open market (open offer)
- Acquisition of share capital of a company by means of cash, issuance of shares.
- Making a buyout offer to general body of shareholders.

When a company is acquired by another company, the acquiring company has two choices –

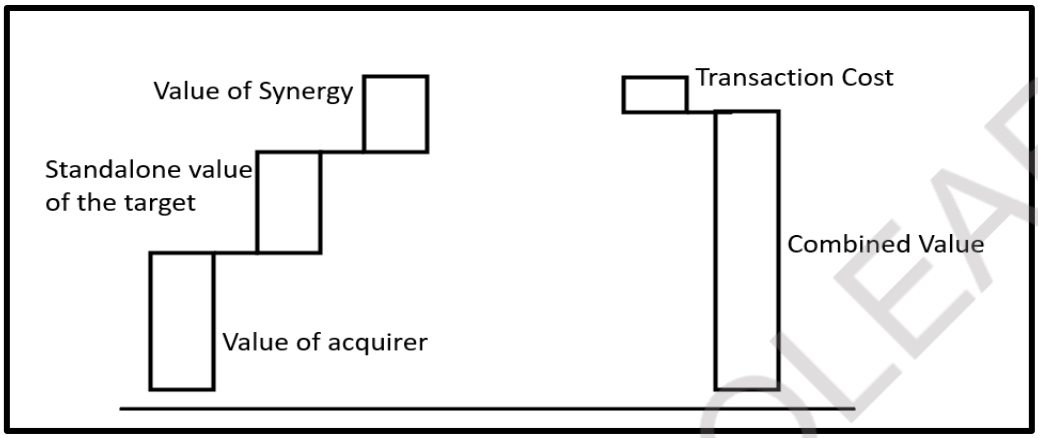
- To merge both the companies into one and function as a single entity
- To operate the taken-over company as an independent entity with changed management and policies.

Q8. How do you evaluate gains from Mergers?

A. **Gains from Mergers or Synergy**

The difference between the combined value and the sum of the values of individual companies is usually attributed to synergy.

There is also a cost attached to an acquisition. The cost of acquisition is the price premium paid over the market value plus other costs of integration. Therefore, the net gain is the value of synergy minus premium paid.



Q9. What is A scheme of Amalgamation?

A. **Scheme of Amalgamation or Merger**

The scheme of any arrangement or proposal for a merger is the heart of the process. It is designed to suit the terms and conditions relevant to the proposal and should take care of any special feature peculiar to the arrangement.

An essential component of a scheme is the provision for vesting all the assets and liabilities of the transferor company in its transferee company.

Appointed Date

The appointed date refers to the date on which the merger/transfer takes place wherein the property, assets, or liabilities of the transferor shall vest the transferee-company.

Effective Date

The effective date denotes whether the merger is completed, and the companies merged are dissolved by way of the Registrar of Companies ("RoC").

Effective date is statutory recognition of amalgamation regarding the successful completion of business transfer as agreed upon.

Q10. How is Financial Evaluation done in case of an Amalgamation?

A. **Financial Evaluation**

It addresses the following issues.

- What is the maximum price of the target company?
- What are the principal areas of risk?

- What are the cash flow and balance sheet implications of the acquisition?
- What is the best way of structuring the acquisition?

There are bound to be differences of opinion as to what the correct value of the shares of the company is. Simply because it is possible to value the share in a manner different from the one adopted in each case; it cannot be said that the valuation agreed upon has been unfair.

Arranging Finance for Acquisition

One of the most important decisions is **how to pay for the acquisition**.

The consideration could be in the form of cash or stock or part of each and this would be part of the Definitive Agreement.

For Example:

The reason to pay by shares would be when the acquirer considers that their company's shares are overpriced in the market. If cash pay-out is significant, the acquirer must plan for financing the deal.

Sometimes acquirers do not pay all the purchase consideration as, even though they could have sufficient funds. This is part of the acquisition strategy to keep the war chest ready for further acquisitions.

Q11. What are some of the Takeover Tactics? **(Important)**

A. Acquisitions can be friendly or hostile. Hostile takeover arises when the Board of Directors of the acquiring company decide to approach the shareholders of the target company directly through a Public Announcement (Tender Offer) to buy their shares, consequent to the rejection of the offer made to the Board of Directors of the target company.

Take over Strategies

Street Sweep

This refers to the technique where the acquiring company accumulates a larger number of shares in a target before making an open offer. The advantage is that the target company is left with no choice but to agree to the proposal of the acquirer for takeover.

Bear Hug

Like a bear – takes the target company into its grasp - the acquiring company threatens the target to make an open offer.

The board of the target company agrees to a settlement with the acquirer for change of control.

Strategic Alliance

This involves disarming the acquirer by offering a partnership rather than a buyout. The acquirer will assert control from within over a period of time and then take over the target company.

Brand Power

This refers to entering an alliance with powerful brands to displace the target's brands and as a result, buyout the weakened company.

Q12. What are some of the Takeover Defensive Tactics? **(Important)**

Defensive Tactics

A target company can adopt several tactics to defend itself from a hostile takeover through a tender offer.

Divestiture

The target company divests or spins off some of its businesses in the form of an independent, subsidiary company. Thus, reducing the attractiveness of the existing business to the acquirer.

Crown Jewels

It involves selling the most valuable assets of a target company to a third party or spinning off the assets into a separate entity. The main goal of the crown jewel defence strategy is to make the target company less attractive to the corporate raider.

Poison pill

The poison pill defence includes the dilution of shares of the target company in order to make it more difficult and expensive for a potential acquirer to obtain a controlling interest in the target.

For Example: The target company may issue a substantial number of convertible debentures to its existing shareholders to be converted at a future date when it faces a takeover threat.

Poison put

In this case the target company issue bonds that encourage the holder to redeem at a substantial premium. The resultant cash outflow would make the target unattractive.

Greenmail

Target company buying back shares of its own stock from a takeover bidder who has already acquired a substantial number of shares in pursuit of a hostile takeover.

The management of the target company may offer the acquirer for its shares a price higher than the market price.

White Knight

It is a strategy that involves the acquisition of a target company by its strategic partner, called a white knight, as it is friendly to the target company.

The target company accepts the fact of being taken over but can at least opt to be taken over or merged with a friendly company, as opposed to being the victim of a hostile takeover.

White Squire

This strategy is essentially the same as a white knight and involves selling out shares to a company that is not interested in the takeover. Consequently, the management of the target company retains its control over the company.

Golden Parachutes

When a company offers hefty compensations to its managers if they get ousted due to a takeover, the company is said to offer golden parachutes. This reduces the acquirer's interest in the takeover.

Pac-man defence

The Pac-Man defence occurs when a target company attempts to acquire its potential acquirer when a takeover bid has already been received.

Such a strategy is only workable if the target company has enough financial resources to purchase the required number of shares in the acquirer.

Q13. What is a Reverse Merger? **(Important)**

A. **Reverse Merger**

In a reverse takeover, a smaller company gains control of a larger one. This concept has been successfully followed for the revival of sick units. This type of merger is also known as back door listing.

The three tests that should be fulfilled before an arrangement can be termed as a reverse takeover are specified as follows:

- The assets of the transferor company are greater than the transferee company.
- Equity capital to be issued by the transferee company pursuant to the acquisition exceeds its original issued capital.
- The change of control in the transferee company through the introduction of a minority holder or group of holders.

Benefits for acquiring company

Reverse merger leads to the following benefits for acquiring company

Easy access to the capital market.

Increase in visibility of the company in the corporate world.

Tax benefits on carry forward losses acquired (public) company.

Cheaper and easier route to become a public company.

Q14. What is a Demerger? **(Important)**

A. **Demerger:** It involves a company selling one of its divisions or undertakings to another company or creating an altogether separate company. Demerger is used as a suitable scheme in the following cases:

- Restructuring of an existing business
- Division of family managed business

- Management buy-out

There are various reasons for divestment or demerger viz,

- To pay attention on core areas of business
- The business may not be sufficiently contributing to the revenues
- Business being too big to handle
- The firm may be requiring cash urgently in view of other investment opportunities.

Sell Side Imperatives

- Increasing competitor pressure.
- No access to new technologies and developments
- Strong barriers to market entry
- Poor positioning on supply and demand side
- Inability to achieve Critical mass
- Inefficient utilisation of distribution capabilities
- Inability to develop New strategic business units for future growth
- Inadequate capital to complete the project
- Window of opportunity: Possibility to sell the business at an attractive price
- Focus on core competencies
- In the best interest of the shareholders – where a large well-known firm brings up the proposal, the target firm may be more than willing to give up.

Q15. What are Different Forms of divestment/ demerger/ divestitures? **(Important)**

A. Sell off

A sell-off is the sale of an asset, factory, division, product line or subsidiary by one entity to another for a purchase consideration payable either in cash or in the form of securities.

Reasons for selloffs may be

- The subsidiary doesn't fit into the parent company's core strategy.
- The market may be undervaluing the combined businesses due to a lack of synergy between the parent and the subsidiary.
- Sell-offs also raise cash, which can be used to pay off debts.

Spin-off

A part of the business is separated and created as a separate firm. The existing shareholders of the firm get proportionate ownership.

There is no change in ownership and the same shareholders continue to own the newly created entity in the same proportion as previously in the original firm.

The reasons for spin-off maybe

- Separate identity to a division.
- To avoid the takeover attempt by a predator by making the firm unattractive since a valuable division is spun-off.
- To separate regulated and unregulated lines of business

Split-up

This involves breaking up the entire firm into a series of spin-off. The parent firm no longer legally exists and only the newly created entities survive. Divisions become separate legal entities and the original corporate firm is to be wound up.

Spin-off and split-up are likely to enhance shareholders value and bring efficiency and effectiveness.

Equity Carve-outs

Equity carve-out can be defined as partial spin-off in which company creates its own new subsidiary and subsequently bring out its IPO. It should be however noted that parent company retains its control and only a part of new shares are issued to public.

A carve-out generates cash because shares in the subsidiary are sold to the public, but the issue also unlocks the value of the subsidiary unit and enhances the parent's shareholder value.

Demerger or Division of Family-Managed Business

Reasons -

- Pressure to yield control to professional managements.
- Hive off unprofitable businesses or divisions with a view to meeting a variety of succession problems.
- Consolidating core businesses.

Q16. What is Financial Restructuring?

A. There are several reasons (financial and non-financial) that may trigger the need for financial restructuring.

For Example:

A company is in financial difficulty when it cannot pay its debt. In such distressed situations, stakeholders wish to protect their position and provide a stable platform to the company.

Financial restructuring refers to a kind of internal changes made by the management in Assets and Liabilities of a company with the consent of its various stakeholders. This is a suitable mode of restructuring for corporate entities that have suffered from sizeable losses over a period. Consequent upon losses, the share capital or net worth of such companies is substantially eroded.

Financial restructuring is aimed at reducing the debt/payment burden of the corporate firm. This results in

- Reduction/Waiver in the claims from various stakeholders
- Real worth of various properties/assets by revaluing them timely
- Utilizing profit accruing on account of appreciation of assets to write off accumulated losses and fictitious assets

Q17. What are various types of Ownership Restructuring?

Going Private

This refers to the situation wherein a listed company is converted into a private company by buying back all the outstanding shares from the markets. A company typically goes private when its stakeholders decide that there are no longer significant benefits to be garnered as a public company.

Management Buy-Out

Buyouts initiated by the management team of a company are known as management buyouts. In this type of acquisition, the company is bought by its own management team.

MBOs are considered as a useful strategy for exiting those divisions that do not form part of the core business of the entity.

Leveraged Buy-Out

A leveraged buyout (LBO) is the acquisition of a target using a significant amount of borrowed money to meet the cost of acquisition.

The assets of the target company are often used as collateral for the loans. The target company no longer remains public after the leveraged buyout.

The intention behind an LBO transaction is to improve the operational efficiency of the firm and increase the volume of sales and thereby increase the cash flow of the firm.

After an LBO, the target company is managed by private investors. Once the LBO is successful in increasing the target company's profit margin and improving its operating efficiency and debt is paid back, the target company may go public again.

Equity Buy-Out

This refers to the situation wherein a company buys back its own shares back from the market. This results in a reduction in the equity capital of the company.

This strengthens the promoter's position by increasing their stake in the equity of the company. Company uses its surplus cash to buy shares from the public. Once the shares are bought back, they get absorbed and cease to exist.

The purpose of leveraged buyouts is to allow companies to make large acquisitions without having to commit a lot of capital.

Q18. What are the effects of an Equity Buy Back by an entity?

A. Effects of Buyback

- It increases the proportion of shares owned by controlling shareholders as the number of outstanding shares decreases after the buyback.
- Earnings Per Share (EPS) increases as the number of shares reduces, leading to an increase in the market price of shares.
- In the balance sheet – Reduction in cash balance and reduction in shareholder's Equity.
- In Cash Flow Statement – Cash outflow in financing activities

- Return on Assets (ROA) and Return on Equity (ROE) typically improve after a share buyback.

Q19. How Can a Business Unlock Value Through Mergers & Acquisitions and Business Restructuring?

A. Value is unlocked through mergers, acquisitions, and business restructuring because of following reasons:

- Horizontal growth helps to achieve optimum size, enlarge the market share, curb competition and use of unutilised capacity.
- Vertical combination helps to economise costs and eliminate avoidable taxes /duties.
- Diversification of business.
- Mobilising financial resources by utilising the idle funds lying with another company for the expansion of business. (For example, nationalisation of banks provided this opportunity and the erstwhile banking companies merged with industrial companies);
- Merger of an export, investment, or trading company with an industrial company or vice versa with a view to increase cash flow.
- Merging subsidiary company with the holding company with a view to improving cash flow.
- Taking over a 'shell' company which may have the necessary industrial licences etc., but whose promoters do not wish to proceed with the project.
- An amalgamation may also be resorted to for the purpose of nourishing a sick unit in the group and this is normally a merger for keeping up the image of the group.
- The business restructuring helps the company in:
  - Positioning the company to be more competitive,
  - Surviving an adverse economic climate,
  - positioning the company into in an entirely new direction.

Q20. How are Premium and Discount arrived at in case of an M&A deal?

A. Timing is very critical while divesting a business since valuation depends on the timing.

Economic cycles, stock market situations, global situations etc impact the valuation

For Example:

During bull phase, there could be a situation where there are more buyers but not sellers due to the low valuation.

The basis for M&A is the expectation of several future benefits arising out of synergies between businesses. There is a risk involved in realizing this synergy value. This could be due to corporate, market, economic reasons, or wrong estimation of the benefits/synergies.

It is advisable to have range of values for the transaction in different situations in case one is called upon to assist in advising the transaction valuation.

Range of values are based on transaction multiple, comparable company, discounting cash flows, PE Ratio, Net asset value, past earnings approach etc.

Q21. What is the key steps involved in a successful M&A?

There are five principal **steps in a successful M&A programme**.

- Manage the pre-acquisition phase.
- Screening candidates.
- Eliminate those who do not meet the criteria and value the rest.
- Negotiate & execute.
- Post-merger integration

During the pre-acquisition phase, the acquirer should maintain secrecy about its intentions. Otherwise, the resulting price increase due to rumours may kill the deal.

The benefit of synergy will be there only if the merged entity is managed better after the acquisition than it was managed before. It is the quality of the top management that determines the success of the merger. There must be proper integration of business processes and cultures after M&A.

The target company executives get bogged down preparing vision and mission statements, budgets, forecasts, and profit plans which were hitherto unheard of.

To make a merger successful, the team must decide on the tasks need to be accomplished in the post-merger period, choose managers, set targets and motivate them

Q22. What is the key reasons for failure of M&A?

A. Some of the **key reasons for failures** of M&A are as follows

- Acquirers generally overpay
- The value of synergy is over-estimated
- Poor post-merger integration
- Psychological barriers

Q23. Why do Companies acquire targets by making payments through shares?

A. Acquisition through Shares

The acquirer can pay the target company through the exchange of shares in consideration. The steps involved in the analysis are:

- Estimate the value of acquirer's equity
- Estimate the value of target company's equity
- Calculate the maximum number of shares that can be exchanged with the target company's shares; and
- Conduct the analysis for pessimistic and optimistic scenarios.

Shareholders of the target company find the merger desirable only if the value of their shares is higher with the merger than without the merger.

The value of combined business is a function of combined earnings and combined PE ratio.

A lower combined PE ratio can offset the gains of synergy, or a higher P/E ratio can lead to higher value of business, even if there is no synergy.

Q24. What is cross border M&A?

A. **Cross Border M&A**

Cross border merger is a merger of two companies which are in different countries.

Factors that motivate multinational companies to engage in cross-border M&A in Asia include the following

- Globalization of production and distribution of products and services.
- Integration of global economies.
- Expansion of trade and investment relationships on international level.
- Many countries are reforming their economic and legal systems and providing generous investment and tax incentives to attract foreign investment.
- Privatisation of state-owned enterprises and consolidation of the banking industry.

Q25. What are SPACs? **(Important)**

A. **Special Purpose Acquisition Companies**

A special purpose acquisition company (SPAC) is a corporation formed for the sole purpose of raising investment capital through an initial public offering (IPO).

Such a business structure allows investors to contribute money towards a fund, which is then used to acquire one or more unspecified businesses to be identified after the IPO.

This sort of shell firm structure is often called a "**blank-cheque company**"

When the SPAC raises the required funds through an IPO, the money is held in a trust until a predetermined period elapses or the desired acquisition is made. In the event that the planned acquisition is not made, or legal formalities are still pending, the SPAC is required to return the funds to the investors, after deducting bank and broker fees.

However, investors' money invested in a SPAC trust to earn a suitable return for up to two years, could be put to better use elsewhere

Shareholders have the option to redeem their shares if they are not interested in participating in the proposed merger. Finally, if the merger is approved by shareholders, it is executed, and the target private company or companies become public entities. Once a formal merger agreement has been executed the SPAC target is usually publicly announced.

The merger of a SPAC with a target company presents several challenges, such as complex accounting and financial reporting/registration requirements, to meet a public company readiness timeline and being ready to operate as a public company within a period of three to five months of signing a letter of intent.

The current regulatory framework in India does not support the SPAC transactions. Further as per the Companies Act, 2013, the Registrar of Companies is authorized to strike-off the name of companies that do not commence operation within one year of incorporation.

The International Financial Services Centres Authority (IFSCA), being the regulatory authority for development and regulation of financial services, financial products, and financial institutions in the Gujarat International Finance Tec-City, has recently released a consultation paper defining critical parameters such as offer size to public, compulsory sponsor holding, minimum application size, minimum subscription of the offer size, etc.

Q26. Elaborate on the need and rationale for M&A?

A. **Rationale for M&A**

Instantaneous growth, Snuffing out competition, Increased market share.	1. Airtel – Loop Mobile (2014) (Airtel bags top spot in Mumbai Telecom Circle) 2. Facebook – WhatsApp (2014) (Facebook acquired its biggest threat in chat space)
Acquisition of a competence or a capability	Google – Motorola (2011) (Google got access to Motorola's 17,000 issued patents and 7500 applications) Flipkart – Myntra (2014) (Flipkart poised to strengthen its competency in apparel e-commerce market)
Entry into new markets/product segments	1. Airtel – Zain Telecom (2010) (Airtel enters 15 nations of African Continent in one shot) 2. TATA – Jaguar Land Rover 3. TATA – Corus Group 4. TATA – Tetley 5. Cargill – Wipro (2013) (Cargill acquired Sunflower Vanaspati oil business to enter Western India Market)
Access to funds	1. Ranbaxy – Sun Pharma (2014) (Daiichi Sankyo sold Ranbaxy to generate funds) 2. Jaypee – Ultratech (2014) (Jaypee sold its cement unit to raise funds for cutting off its debt) 3. Café Coffee Day turnaround strategy
Tax benefits	Burger King (US) – Tim Hortons (Canada) (2014) (Burger King could save taxes in future) Durga Projects Limited (DPL) – WBPDCL (2014) (DPL's loss could be carry forward and setoff)

STARTUP FINANCE 18Q|16PE

Q1. What is a startup and what are its key characteristics? **(Important) (Past Exam)**

A. Startup financing means some initial infusion of money needed to turn an idea (by starting a business) into realty

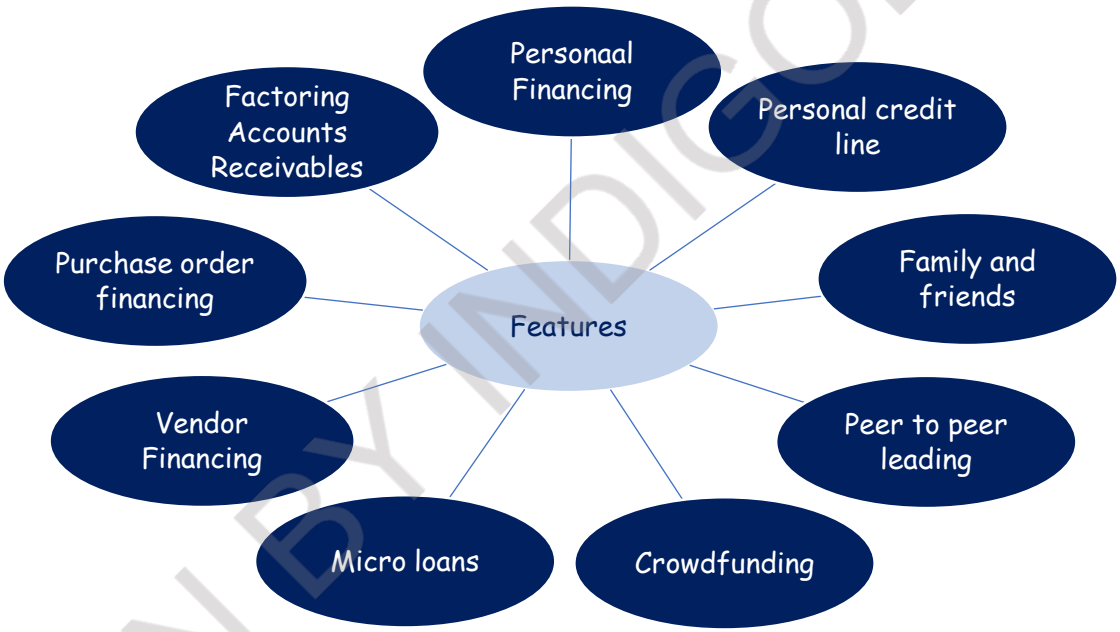
Characteristics:

- New innovative Business
- Started by Entrepreneurs
- Reach a large market
- Scale the Business / Sale out/ Die

Q2. What are the sources / innovative sources of financing a startup? **(Important) (Past Exam)**

A. Sources of Financing a Startup

Every startup needs access to capital, whether for funding product development, acquiring machinery and inventory or paying salaries to its employee.



Personal Financing – Most of the investors will not invest into a deal if they see that entrepreneurs have not contributed any money from their personal sources.

Personal Credit lines – One qualifies for personal credit line based on one's personal credit efforts. Banks are very cautious and grant it based on the business cash flow to repay the line of credit. Ex: Credit Card

Family and Friends – The loan obligations to friends and relatives should always be in writing as a promissory note or otherwise.

Peer to Peer lending – In this process, group of people come together and lend money to each other.

Crowdfunding – It is the use of small amounts of capital from a large number of individuals to finance a new business initiative.

Microloans – Small loans that are given by a single individual or aggregated across a number of individuals who each contribute a portion at a lower interest to a new business ventures.

Vendor financing – This is a form of financing in which a company lends money to one of its customers so that he can buy products from the company itself.

Vendor financing also takes place when many manufacturers and distributors are convinced to defer payment until the goods are sold by extending the payment terms to a longer period.

However, this depends on one's credit worthiness and payment of more money.

Purchase order financing – The most common scaling problem faced by startups is they don't have the necessary cash to produce and deliver the product for new large orders.

Purchase order financing companies often advance the required funds directly to the supplier, allowing the completion of transaction and profit flows up to the new business

Factoring accounts receivables – A facility given to the seller who has sold the good on credit to fund his receivables till the amount is fully received.

When the goods are sold on credit, factor will pay most of the sold amount up front and rest of the amount later.

Q3. What are the components of a Pitch Presentation that a start up usually makes? **(Important) (Past Exam)**

A. Pitch deck presentation is a brief presentation basically using PowerPoint to provide a quick overview of business plan and convincing the investors to put some money into the business.

Item	Details
Team	As the investors is also investing in the team, it can also be highlighted that the team has worked and achieved significant results in past.
Problem	The promoter should be able to explain the problem he is going to solve and solutions emerging from it. The investors should be convinced that the newly introduced product or service will solve the problem convincingly. Example: Facebook in comparison to Orkut.
Solution	It is very important to describe in the pitch presentation as to how the company is planning to solve the problem. Example: Flipkart brought the concept of e-commerce in India but then payment through credit card was rare. So, they introduced the system of payment based on cash on delivery.
Sales / Marketing	The market size of the product must be communicated to the investors which include profiles of target customers, but one

	should be prepared to answer questions about how the promoter is planning to attract the customers. The promoter can also brief the investors about the growth and forecast future revenue.
Milestones / Projections	Projected financial statements can be prepared which gives a potential investor a brief idea about where the business is heading? It tells whether the business will be making profit or loss? These include three basic documents that make up a business's financial statements. ○ Income statement ○ Cashflow statement ○ Balance sheet
Competition	It is necessary to highlight in the pitch presentation as to how the products or services are different from their competitors. If any of the competitors have been acquired, their complete details like name of the organization, acquisition prices etc. should also be highlighted.
Business Model	○ It denotes core aspects of a business. ○ As per Investopedia, a business model is the way in which a company generates revenue and makes a profit from company operations. ○ The investor should be informed in a pitch presentation as to how they should plan on generating revenue. ○ The lifetime value of the customer and what should be the strategy to keep him glued to their product is also to be discussed.
Financing	It is preferable to talk about how much money has already been raised, who invested money into the business and what they did about it. It ensures that deal meets all legal, regulatory, accounting and tax laws requirements. If the promoter is to raise capital, he should list how much he is looking to raise and how he intend to use the funds.

Q4. What is a Unicorn?

A Unicorn is a privately held start-up company which has achieved a valuation US$ 1 billion. This term was coined by venture capitalist Aileen Lee, first time in 2013. Unicorn, a mythical animal represents the statistical rarity of successful ventures.

A start-up is referred as a Unicorn if it has following features:

(i) A privately held start-up.

(ii) Valuation of start-up reaches US$ 1 Billion.

(iii) Emphasis is on the rarity of success of such start-up.

(iv) Other common features are new ideas, disruptive innovation, consumer focus, high on technology etc.

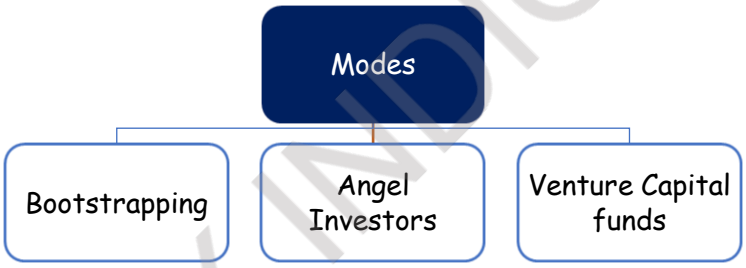
However, it is important to note that in case the valuation of any start-up slips below US$ 1 billion it can lose its status of 'Unicorn'. Hence a start-up may be Unicorn at one point of time and may not be at another point of time.

In September 2011, InMobi, an ad-tech startup, became the first Unicorn of India. SoftBank invested US$ 200 million in InMobi valuing the mobile advertising company at over US$ 1 billion, making it India's first unicorn. InMobi was founded in 2007 and took four years to achieve the Unicorn status in 2011 In 2018, Udaan, a B2B e-commerce marketplace, became the fastest growing startup by becoming a Unicorn in just over two years' time.

India has now emerged as the 3rd largest ecosystem for startups globally, after US and China, with over 59,000 DPIIT-recognized startups. As per data available on InvestIndia.gov.in, as of 7th September 2022, India had 107 unicorns with a combined valuation of US$ 340.79 billion. The next milestone for a Unicorn to achieve is to become a Decacorn, i.e., a company which has attained a valuation of more than US$ 10 billion. There should be no doubt that within a few years the Unicorns would be a thing of the past and we would be talking about the Decacorns of India.

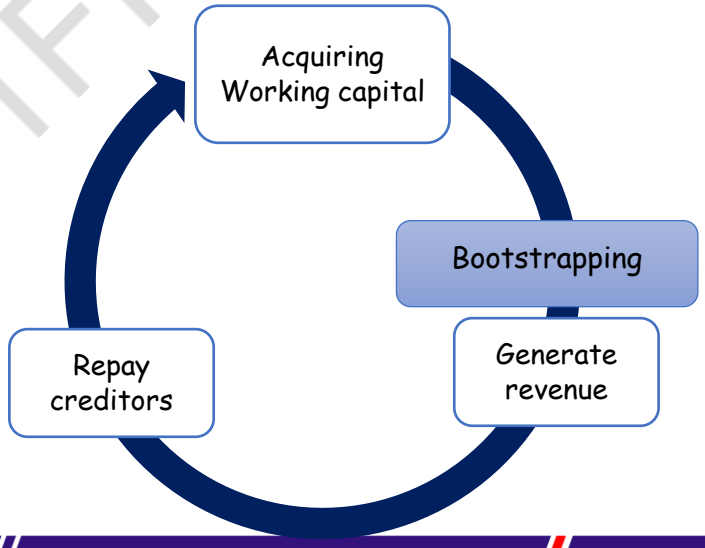
Q5. What are Various Modes of Financing for Startups? / Explain What is Bootstrapping **(Important) (Past Exams)**

A.



Bootstrapping

An individual is said to be bootstrapping when he or she attempts to found and build a company from personal finances or from the operating revenues of the new company.



Some methods in which Startup can bootstrap:

Trade Credit: One could borrow money to pay for the inventory, but you must pay interest on that money. Trade credit is one of the most important way to reduce the amount of working capital one needs. This is especially true in retail operations.

Factoring: This is a financing method where accounts receivable of a business organization is sold to a commercial finance company to raise capital. The factor then gets hold of the accounts receivable of a business organization and assumes the task of collecting the receivables as well as doing what would've been the paperwork. Factoring can be performed on a non-notification basis as the customers may not be told that their accounts have been sold.

Advantages of Factoring:

(i) Reduce costs for a business organization.

(ii) Actually reduce costs associated with maintaining accounts receivable.

(iii) Even proved fruitful to utilize this financing method.

(iv) Also frees up money that would otherwise be tied to receivables.

(v) Very useful tool for raising money and keeping cash flowing.

Leasing: It will reduce the capital cost and also help lessee to claim tax exemption. The lessor enjoys tax benefits in the form of depreciation on the fixed asset leased and may gain from capital appreciation on the property, as well as making a profit from the lease.

Angel Investors

Angel investors are focused on helping startups take their first steps, rather than the possible profit they may get from the business.

Essentially, angel investors are the opposite of venture capitalists.

Angel investors typically use their own money, unlike venture capitalists who take care of pooled money from many other investors and place them in a strategically managed fund.

Angel investors are also called informal investors, angel funders, private investors, **seed investors** or business angels. Some angel investors invest through crowdfunding platforms online or build angel investor networks to pool in capital.

Venture Capital Financing

Money provided by professionals who alongside management invest in young, rapidly growing companies that have the potential to develop into significant economic contributors. Venture Capitalists generally

- Finance new and rapidly growing companies
- Purchase equity securities
- Assist in the development of new products or services
- Add value to the company through active participation.

Q6. What are Characteristics of VC financing? **(Important) (Past Exams)**

A.

Character	Explanation
Long term horizon	The fund would invest with a long-time horizon in mind. Period of investment would be minimum of 3 years and maximum of 10 years.
Lack of liquidity	VC considers the liquidity factor while investing. They adjust this liquidity premium against the price and required return
High risk	VC works on principle of high risk and high return.
Equity participation	VC would mostly be investing in the form of equity of a company.

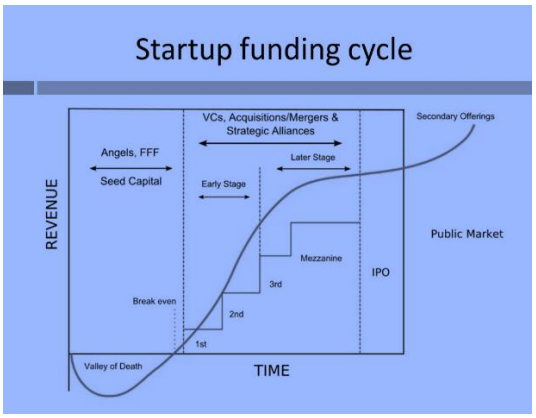
Q7. What are advantages of VC financing? **(Important) (Past Exams)**

A.

- It injects long- term equity finance which provides a solid capital base for future growth.
- The venture capitalist is a business partner, sharing both the risks and rewards i.e., business success and capital gain.
- The venture capitalist is able to provide practical advice and assistance to the company based on past experience with other companies which were in similar situations.
- The venture capitalist also has a network of contacts in many areas that can add value to the company.
- The venture capitalist may be capable of providing additional rounds of funding should it be required to finance growth.
- Venture capitalists are experienced in the process of preparing a company for an Initial Public Offering (IPO) of its shares onto the stock exchanges or overseas stock exchange such as NASDAQ.
- They can also facilitate a trade sale.

Q8: What are various Stages of Funding by VCs? **(Important) (Past Exams)**

A.



Seed Money: Low level financing needed to prove a new idea

Start-up: Early-stage firms that need funding for expenses associated with marketing and product development

First Round: Early sales and manufacturing funds

Second Round: Working capital for early-stage companies that are selling product, but not yet turning in a profit

Third Round: Also called Mezzanine financing, this is expansion money for a newly profitable company

Fourth Round: Also called bridge financing, it is intended to finance the "going public" process

Q9: What are Risks at various stages of VC Investments? **(Important) (Past Exams)**

A.

Financial Stage	Period (Funds locked in years)	Risk Perception	Activity to be financed
Seed Money	7-10	Extreme	For supporting a concept or idea or R&D for product development and involves low level of financing.
Start Up	5-9	Very High	Initializing prototypes operations or developing products and its marketing.
First Stage	3-7	High	Started commercials production and marketing.
Second Stage	3-5	Sufficiently high	Expanding market and growing working capital need though not earning profit.
Third Stage	1-3	Medium	Market expansion, acquisition & product development for profit making company. Also called Mezzanine Financing.
Fourth Stage	1-3	Low	Facilitating public issue i.e., going public. Also called Bridge Financing.

Q10: Explain the VC Investment Process? **(Important) (Past Exams)**

A. VC investment process

Stage	Details
Deal Origination	(i) VC operates directly or through intermediaries. (ii) VC would inform the intermediary or its employees about the following so that the sourcing entity does not waste time: ○ Sector focus ○ Stages of business focus ○ Promoter focus

	○ Turn over focus (iii) Company would give a detailed business plan which consists of business model, financial plan and exit plan in a document which is called Investment Memorandum (IM).
Screening	(i) After sourcing the deal, it is sent for screening. (ii) This is generally carried out by a committee consisting of senior level people of the VC.
Term Sheet	This contains the terms of investment such as funding, governance, operations, liquidation, Etc,
Due Diligence	(i) VC would now carry out due diligence after screening decision. (ii) This is the process handled by external bodies where, VC would try to verify the veracity of the documents taken. (iii) Fees of due diligence are generally paid by the VC but may also be shared between VC and Investee.
Deal Structuring	(i) After due diligence it would go through the deal structuring. (ii) The convertible structure is brought in to ensure that the promoter retains the right to buy back the share. (iii) The VC may put a condition that promoter has also to sell part of its stake along with the VC also called tag-along clause.
Post Investment	i. VC nominates its nominee in the board of the company. ii. The company has to adhere to certain guidelines like strong MIS, strong budgeting system, strong corporate governance and other covenants of the VC and periodically keep the VC updated about certain mile-stones. iii. If milestone has not been met the company has to give explanation to the VC. Besides, VC would also ensure that professional management is set up in the company.
Exit Plan	VC in confirmation with promoter or company form the exit plan which may happen upon; ○ Failure or death of Startup ○ Selling to third party/ Merger ○ IPO ○ Secondary Exit

Q11: Elaborate on the VC funds in India? **(Important) (Past Exams)**

A. VC Funds in India – Brief History

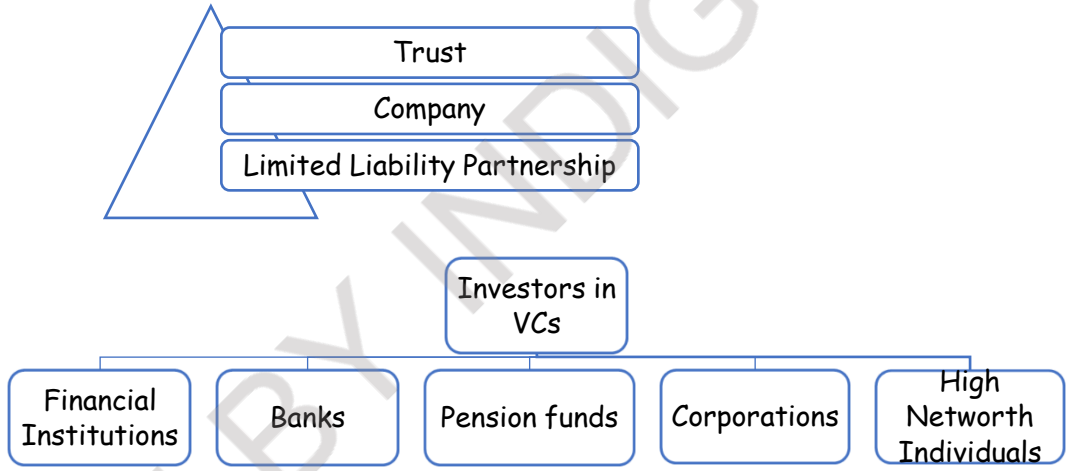
- Venture Capital in India stated in the decade of 1970, when the Government of India appointed a committee to tackle the issue of inadequate funding to entrepreneurs and start-ups. However, it is only after ten years that the first all India venture capital funding was started by IDBI, ICICI and IFCI.
- With the institutionalization of the industry in November 1988, the government announced its guidelines in the "CCI" (Controller of Capital Issues). These focused on a very narrow description of Venture Capital and proved to be extremely

restrictive and encumbering, requiring investment in innovative technologies started by first generation entrepreneur. This made investment in VC highly risky and unattractive.

- At about the same time, the World Bank organized a VC awareness seminar, giving birth to players like: TDICICI, GVFL, Canbank and Pathfinder. Along with the other reforms the government decided to liberalize the VC Industry and abolish the "CCI", while in 1995 Foreign Finance companies were allowed to invest in the country.
- Nevertheless, the liberalization was short-spanned, with new calls for regulation being made in 1996. The new guidelines' loopholes created an unequal playing ground that favoured the foreign players and gave no incentives to domestic high net worth individuals to invest in this industry.
- VC investing got considerably boosted by the IT revolution in 1997, as the venture capitalists became prominent founders of the growing IT and telecom industry.
- Many of these investors later floundered during the dotcom bust and most of the surviving ones shifted their attention to later stage financing, leaving the risky seed and start-up financing to a few daring funds.

Q12: Elaborate on the structure of VC funds in India? **(Important) (Past Exams)**

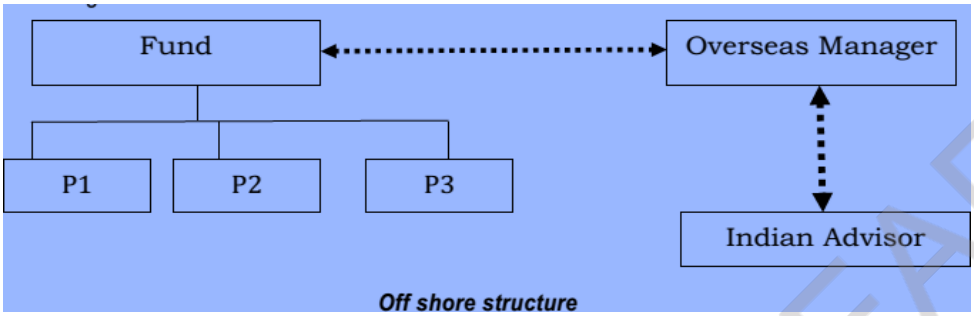
A. Venture Capital Funds Structure in India

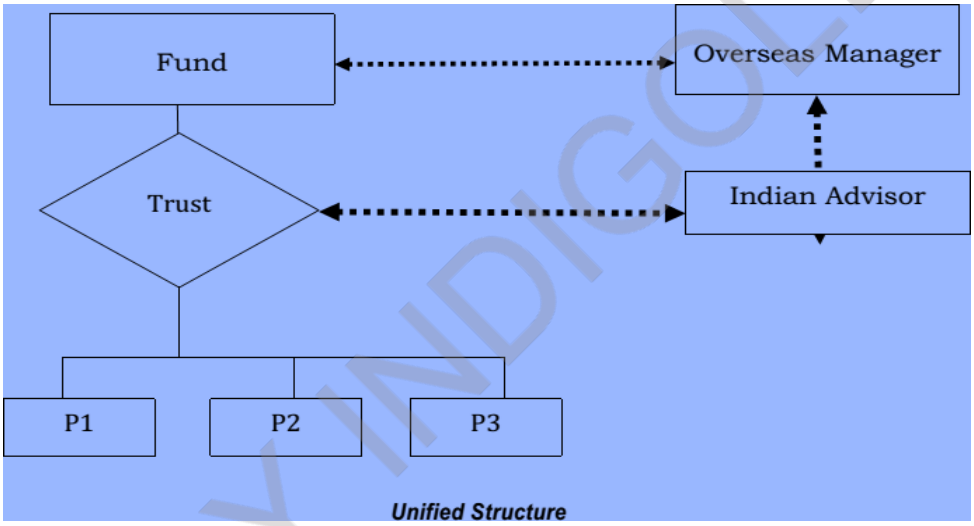


Structure of funds

Domestic Funds	(i) **Funds which are raised domestically and structured as a:** ○ **domestic vehicle for the pooling of funds from the investor, and** ○ **separate investment adviser that carries duties of asset manager.** (ii) Choice of entity for the pooling vehicle falls between a trust and a company, with the trust form (due to its operational flexibility).
Offshore Funds	(i) Alternatives available to offshore investors are the "offshore structure" and the "unified structure". (ii) Off-shore structure ○ Investment vehicle makes investments directly into Indian portfolio companies ○ The assets are managed by an offshore manager, while the investment advisor in India carries out the due diligence and identifies deals.

	(iii) Unified Structure ○ This is used when domestic investors are expected to participate in the fund. ○ Overseas investors pool their assets in an offshore vehicle that invests in a locally managed trust, whereas domestic investors directly contribute to the trust. ○ This is later device used to make the local portfolio investments.





Q13: Explain the Startup India Initiative? **(Important) (Past Exams)**

A. Startup India Initiative

Startup India scheme was initiated by the Government of India on 16th of January 2016. As per GSR Notification 127 (E) dated 19th February 2019, an entity from the date of incorporation/ registration shall be considered as a Startup:

Particulars	Explanation
Incorporated in India *Up to 10 years*	Private limited company (as defined in the Companies Act, 2013) or Partnership firm (registered under section 59 of the Partnership Act, 1932) or Limited liability partnership (under the Limited Liability Partnership Act, 2008)
Turnover *any F.Y*	Does not exceeded one hundred crore rupees

Working towards	Innovation, development or improvement of products or processes or services, or A scalable business model with a high potential of employment generation or wealth creation.

Entity formed by splitting up or reconstruction of an existing business shall *not* be considered a 'Startup'.

Q14. How does Start up India Initiative help the growth of Startups? **(Past Exam)**

The start-ups story of India got a major boost with the launch of Startup India and StandUp India programs in year 2016. It helped in creating widespread awareness in general public about start- ups and gave a boost to the entrepreneurial mindset. By setting up a SIDBI-run Electronic Development Fund (EDF), the Indian Government became a Limited Partner (LP) in a fund for the first time ever. Easy finance options such as Mudra Scheme, tax benefits such as 100% tax holiday under section 80-IAC and exemption from angel taxation also provided the much-needed push to the young Indian start-ups.

In January 2021, the Department for Promotion of Industry and Internal Trade (DPIIT) created the Startup India Seed Fund Scheme (SISFS) with an outlay of INR 945 Crore to provide financial assistance to start-ups for Proof of Concept, prototype development, product trials, market entry, and commercialization. It will support an estimated 3,600 entrepreneurs through 300 incubators in the next 4 years. A start-up, recognized by DPIIT, incorporated not more than 2 years ago at the time of application and having a business idea to develop a product or a service with a market fit, viable commercialization, and scope of scaling, can apply for SISFS. A start-up can get seed fund of as much as INR 50 Lakh under SISFS. The priority sectors for SISFS are social impact, waste management, water management, financial inclusion, education, agriculture, food processing, biotechnology, healthcare, energy, mobility, defence, space, railways, oil and gas, and textiles.

Apart from the support from government, there are quite a few other reasons why India became such a sustainable environment for start-ups to thrive in. Some of the major reasons are:

(i) The Pool of Talent - Our country has a big pool of talent. There are millions of students graduating from colleges and B-schools every year. Many of these students use their knowledge and skills to begin their own ventures, and that has contributed to the startup growth in India. In the past, much of this talent was attracted to only the big companies, but now that is slowly changing.

(ii) Cost Effective Workforce - India is a young country with over 10 million people joining the workforce every year. The workforce is also cost effective. So, compared to some other countries, the cost of setting up and running a business is comparatively lower.

(iii) Increasing use of the Internet - India has the world's second-highest population, and after the introduction of affordable telecom services, the usage of internet has increased significantly. It has even reached the rural areas. India has the

second-largest internet user base after China, and companies as well as start-ups are leveraging this easy access to the internet.

(iv) Technology - Technology has made the various processes of business very quick, simple and efficient. There have been major developments in software and hardware systems due to which data storage and recording has become an easy task. Indian startups are now increasingly working in areas of artificial intelligence and blockchain technologies which is adding to the growth of businesses.

(iv) Variety of Funding Options Available - Earlier there were only some very traditional methods available for acquiring funds for a new business model, which included borrowing from the bank or borrowing from family and friends. However, this concept has now changed. There are numerous options and opportunities available. Start-up owners can approach angel investors, venture capitalists, seed funding stage investors, etc. The easing of Foreign Direct Investment norms and opening up of majority of sectors to 100% automatic route has also opened the floodgates for foreign funding in the Indian start-up ecosystem.

Q15. What is the meaning of Succession Planning in Business? **(Important & Past Exam)**

Succession planning is the process of identifying the critical positions within an organization and developing action plans for individuals to assume those positions. A succession plan identifies future need of people with the skills and potential to perform leadership roles. Succession planning is an important priority for family-owned businesses as most of them are managed by a non-family leader even though the ownership lies with the family. Taking a holistic view of current and future goals, this type of preparation ensures that the right people are available for the right jobs today and in the years to come. It can also provide a liquidity event, which enables the transfer of ownership in a going concern to rising employees. Succession planning is a good way for companies to ensure that businesses are fully prepared to promote and advance all employees—not just those who are at the management or executive levels.

Q16. Why is there a need for succession planning? **(Important & Past Exam)**

- Risk mitigation – If existing leader quits, then searches can take six-nine months for suitable candidate to close. Keeping an organization without leader can invite disruption, uncertainty, conflict and endangers future competitiveness.
- Cause removal – If the existing leader is culpable of gross negligence, fraud, wilful misconduct, or material breach while discharging duties and has been barred from undertaking further activities by court, arbitral tribunal, management, stakeholders or any other agency.
- Talent pipeline – Succession planning keep employees motivated and determined as it can help them obtaining more visibility around career paths expected, which would help in retaining the knowledge bank created by company over a period of time and leverage upon the same.
- Conflict Resolution Mechanism – This planning is very helpful in promoting open and transparent communication and settlement of conflicts.

- Aligning – In family-owned business succession planning helps to align with the culture, vision, direction, and values of the business.

Q17. Elaborate on Business succession strategy (Past Exam)

Step 1 – Evaluate key leadership positions: - To evaluate which roles are critical, risk or impact assessment can be performed. Generally, these are such positions which would bring transformation to the entire business or create strategic direction for the organization.

Step 2 – Map competencies required for above positions: - In this step, one needs to identify qualifications, behavioural and technical competencies required to perform the role successfully.

Step 3 – Identify competencies of current workforce: - Identifying what are possible internal options that can deliver results as expected in Step-2, and also if there is a need for training and development of certain skills required. The organization should also place weight on whether a need is there to search outside the organization.

Step 4 – Bridge Leader: - In family-owned business appointment of an outsider as 'bridge leaders' will help to develop the business and prepare young family members for leadership role.

Q18. What are Challenges faced in succession planning specifically w.r.t startups?

In context of Start-up following challenges are faced in implementing Succession Planning.

(1) Founder mindset might be different than the corporate mindset – The way founder's brains are wired is different from the way that a traditional corporate manager thinks, and this puts off seasoned corporate leaders from joining even matured start-ups.

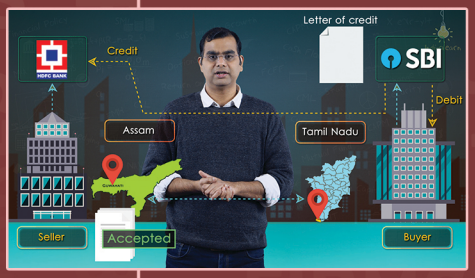
(2) Premature for startups to implement business succession - Certain startups are at early growth stage and too much of processes would lead to growth slow-down and hence they are not in a current stage for implementing business succession planning.

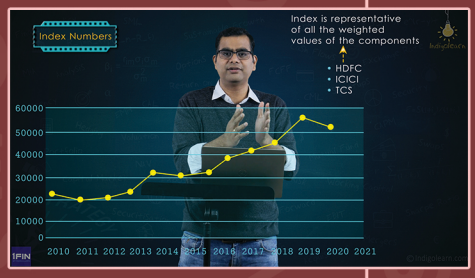
(3) Founders are the face of startups – One cannot imagine a startup without a founder who initiated the idea and executed it and in his/ her absence succession planning can become difficult.

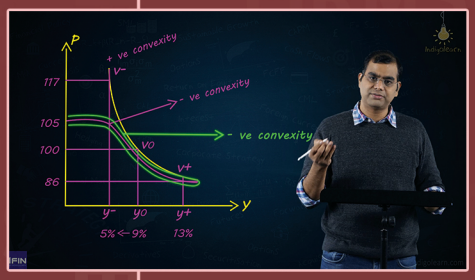
Our Approach

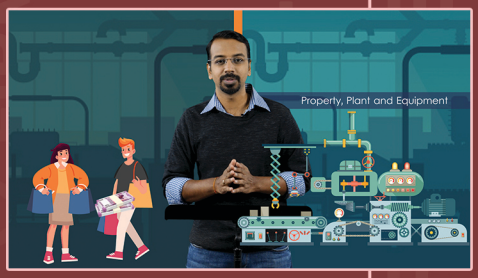
We go to great lengths to ensure that we deliver a quality learning experience to our students. Right from pedagogy design to faculty selection, video recording and animation, at evaery stage our goal is to ensure that the final output is the BEST and it meets the requirements of the learners. It is our laser sharp focus on maintaining HIGH QUALITY and setting new benchmarks in the CA education domain, that make our efforts stand out and help our students to succeed in their examinations.

A Glimpse of our e-learning modules









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