Financial Reporting (Indian Accounting Standards), Ind AS 113

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Agenda & Coverage

Overview on Financial Reporting (Indian Accounting Standard – 113)

Applicability of Principals of Valuation in Ind AS Financial Statements

Types of Valuations

- ESOP
- Preference Shares / Debentures and other Special Securities

Case Studies

Mock Questions (Objective Type) in respect of Topic

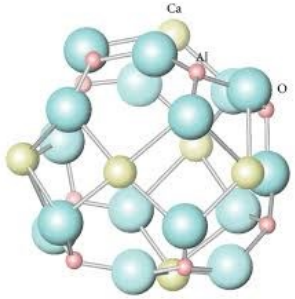
Summary of Education Material

Objective of IND AS 113

This Ind AS:

(a) defines ***fair value;***

(b) sets out in a ***single Ind AS a framework*** for measuring fair value; and



(c) requires ***disclosures*** about fair value measurements.

For example :

Ind As 109 tells when to apply the Fair measurement value but the method i.e. How is determined in Ind As 113.

Scope of Ind As 113

The fair value measurement framework described in this Ind AS applies to both

A). Initial measurement **(For example Purchase on an new asset)**

and

B). Subsequent measurement **(For example Valuation of asset at the end of the Financial Year)**

if fair value is required or permitted by other Ind ASs.

There are many Ind AS to measure asset/liabilities at FV. Some of the Ind AS which consider the use of this Ind AS are Ind AS - 105, 109, 38, 41.

This Ind AS will help to comply to measure the Fair value required by those other Ind AS .

Excluded from Scope of Ind As 113

- Ind As 102 (Share based payments)
- Ind As 2 (Inventories)
- Ind As 17 (Leases)
- Ind As 36 (Impairment of Assets)

No Disclosure required

- Disclosure of Plan assets (Ind As 19)
- Asset for which recoverable amount is fair value less costs of disposal in accordance with Ind AS 36.

INMABS

Valuation technique

Definition of Fair Value

The Asset or liability

Factors affecting measurement of Fair Value

The transaction

The Price

Application to Non Financial Assets

Market participants

Definition of fair value:

This Ind AS defines fair value as the **price** that would be received to sell an asset or paid to transfer a liability in an **orderly transaction** between **market participants** at the **measurement date.**

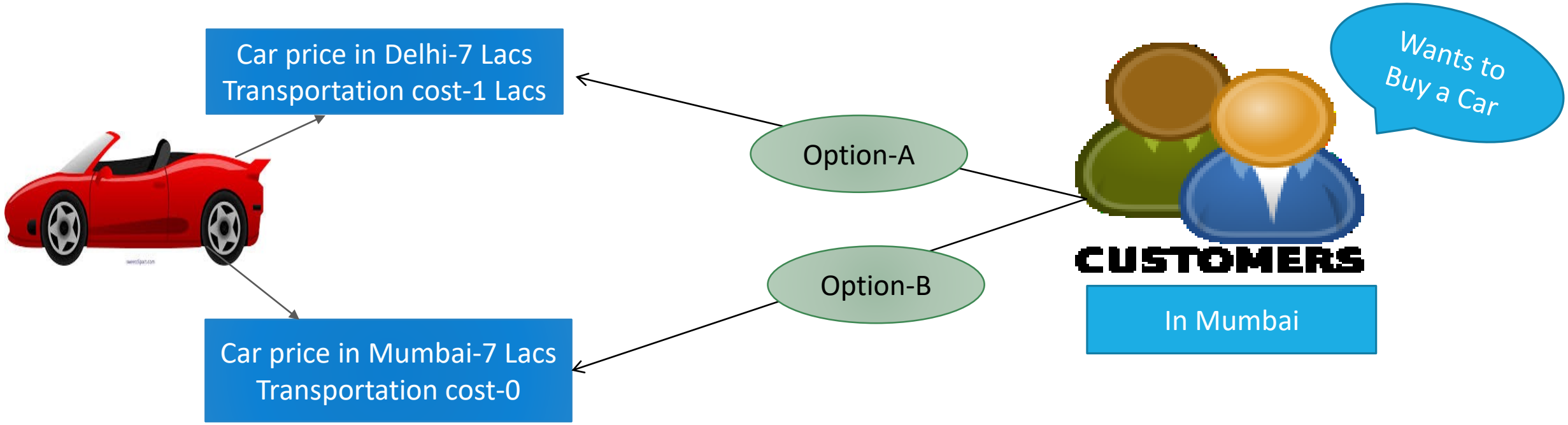
- Fair value is always be at a **particular date**.
- Four major relevant factors to be considered in fair valuation are:
  - Orderly transactions
  - Market participants
  - Price
  - Measurement date

The Asset & Liabilities

- A fair value measurement is for a particular asset or liability. Therefore, when Measuring fair value an entity shall take into account the characteristics of the Asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Such characteristics include, for example, the following:
  - (a) the **condition** and **location** of the asset/liability; and
  - (b) **restrictions**, if any, on the sale or use of the asset/liability.
- The asset or liability measured at fair value might be either of the following:
  - (a) a **stand-alone asset or liability** (Ex. a financial instrument or a non-financial asset); or
  - (b) a **group of assets, a group of liabilities** or a **group of assets and liabilities** (Ex. a cash-generating unit or a business).

Example related to Characteristics of assets/Liabilities:

Example related to Condition and location :



Example related to restrictions :

A car has been **bought for private use** and there **is restriction of not to use the car for any commercial purposes**. Commercial vehicle is having more fair value than private vehicle.
Since the **restriction to use vehicle is assets specific** and market participant will also consider the assets specific restriction while calculating fair values for such assets and hence the condition will be considered while evaluating fair value of the car

Asset and Liability Specific Fair Value

In order to get an Fair value of an asset/ liability, the restrictions or condition that might be related to a particular entity should not be taken into account because a fair value will be based on market participant assumptions rather to an entity specific conditions or restriction which usually will not affect fair valuation of an asset/ liability.

Example : Entity Specific restrictions

An entity is having a land which has a restriction to develop into a commercial house because of restricted business objective in which currently it operates. The entity wants to sell the land and there would not be any restriction for a buyer of the land to develop a commercial house. Since this restriction is entity specific, hence it will not be considered while calculating fair value of the land.

Example : Asset/ Liability specific restrictions

A car has ben bought for private use and there is a restriction of not to use the car for any commercial purposes. Commercial vehicle is having more fair value than private vehicle. since the restriction to use the vehicle is asset specific and market participant will also consider the asset specific restrictions while calculating fair values for such asset and hence this condition will be considered while evaluating fair value of the car.

	To Consider in Fair Value
Entity Specific restrictions	No
Asset/Liability specific restrictions	Yes

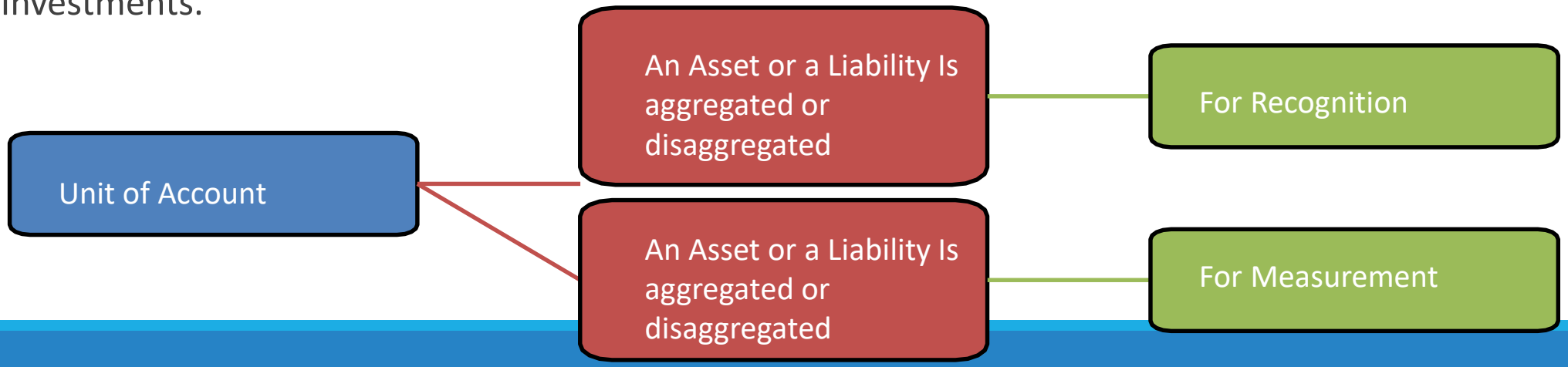
Unit of Account

Whether the asset or liability is a stand-alone asset or liability, a group of assets, a group of liabilities or a group of assets and liabilities for recognition or disclosure purposes depends on its unit of account.

The unit of account for the asset or liability shall be determined in accordance with the Ind AS that requires or permits the fair value measurement, except as provided in this Ind AS.

Example

An Entity having certain securities which are quoted at market and these are recognized at fair value in the Balance Sheet. Quoted prices at Individual level will be used in order to find Fair Values of these Investments.



The Transaction

The most advantageous market will be used when there is no principal market. This could also mean that it is type of market where the best price can be determined. **Market where the seller can get the highest price for asset** (can realise the maximum amount for the asset) & **seller can pay (liabilities are transferred) the lowest price for liability**.

Ex. of such market, Haldiram selling products at airport charge different price than normal stores.

Principle Market

For Trading of Share's
The **PRINCIPLE MARKET is NSE, BSE or other Stock exchange**

The Calcutta Stock Exchange Limited
- Rebuilding Trust

Most Advantageous Market

International Market will be most advantageous market for Export of Diamond

Price -$1000/carat

Price -$1400/carat

Market Participants

An entity shall measure the fair value of an asset or a liability using the assumptions that **market participants would use when pricing** the asset or liability, assuming that market participants **act in their economic best interest**.

Independent	• They are not related to each other i.e. they are not related parties
Knowledgeable	• Market participants are expected to be having complete knowledge of market
Able to enter into Transaction	• The buyer and seller are eligible to contract
Willing	• They must be willing to participate in the market

Orderly Transaction

- Frequent Trading (Adequate market exposure)
- Market participants are not forced.

Knowledge about the market

The Price

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction in the **principal (or most advantageous) market** at the measurement date under current market conditions (ie **an exit price**) regardless of whether that price is directly observable or estimated using another valuation technique.

Fair Value is the price to sell an asset or transfer an liability, and therefore **represents exit price** , **not an Entry price**.

The exit price for an asset or liability is conceptually different from its transaction price (i.e. Entry price). The transaction price is not assumed to be representative of its fair value.

Entry price

Fair Value

Transaction cost:

Principal (or most advantageous) market is where significant level of transactions and activities takes place and it eventually covers/ considers all such transaction costs. Hence, it would not be appropriate to consider any transaction cost further while assessing fair values from such principal markets

Transaction costs do not include transport costs.

Transport cost:

If location is a characteristic of the asset (as might be the case, for example, for a commodity), the price in the principal (or most advantageous) market shall be adjusted for the costs, if any, that would be incurred to transport the asset from its current location to that market.

It would be considered, if in case it is an inherent part of the Assets/ Liability so transacted e.g. **commodity**.

	Principal Market	Most advantageous Market
Transaction cost	No	Yes
Transportation Cost	Yes	Yes

Test yourself

An asset is sold in 2 different active markets (a market in which transaction for the asset or liability takes place with sufficient frequency and volume to provide pricing information on an ongoing basis) at different prices.

An entity enters into transactions in both markets and can access the price in those markets for the asset at the measurement date.

In Market A:

The price that would be received is 26, transaction costs in that market are 3 and the costs to transport the asset to that market are 2 (i.e., the net amount that would be received is 21).

In Market B:

The price that would be received is 25, transaction costs in that market are 1 and the costs to transport the asset to that market are 2 (i.e., the net amount that would be received in Market B is 22).

Answer

If Market A is the principal market for the asset (i.e., the market with the greatest volume and level of activity for the asset), the fair value of the asset would be measured using **the price that would be received in that market, after taking into account transport costs (24).**

If neither market is the principal market for the asset, the fair value of the asset would be measured using the price in the most advantageous market. The most advantageous market is the market that maximises the amount that would be received to sell the asset, **after taking into account transaction costs and transport costs** (i.e., the net amount that would be received in the respective markets).

Because the entity would maximise the net amount that would be received for the asset in **Market B (22)**, the fair value of the asset would be measured using the price in that market **(25), less transport costs (2),** resulting in a fair value **measurement of 23.**

Exception to rule Entry price ≠ Fair value

Transaction price can be equal to Fair value if following conditions doesn't exist:

1. Transactions are between related parties

2. Seller is distressed or forced

3. Transaction are for different unit of account.

4. Transaction takes places in different market.

Application to non financial assets

A fair value measurement of a non-financial asset **(For example: Land, building, PPE)** takes into account a market participant's **ability to generate economic benefits** by using the asset in its **highest and best use** or by selling it to another market participant that would use the asset in its highest and best use.

FV must be based on highest and best use of the asset.

For eg, production capacity of the machine should be considered for valuation and not the capacity utilised by the owner.

The assumption for highest use should be:

Physically possible, legally permissible, and financially feasablity.

Steps for Valuation of Non Financial Asset

Step 1:

Identify the principal or most advantageous market for the asset to be valued

Step 2:

Identify Principle assumptions and factors that market participants will apply for its valuation :

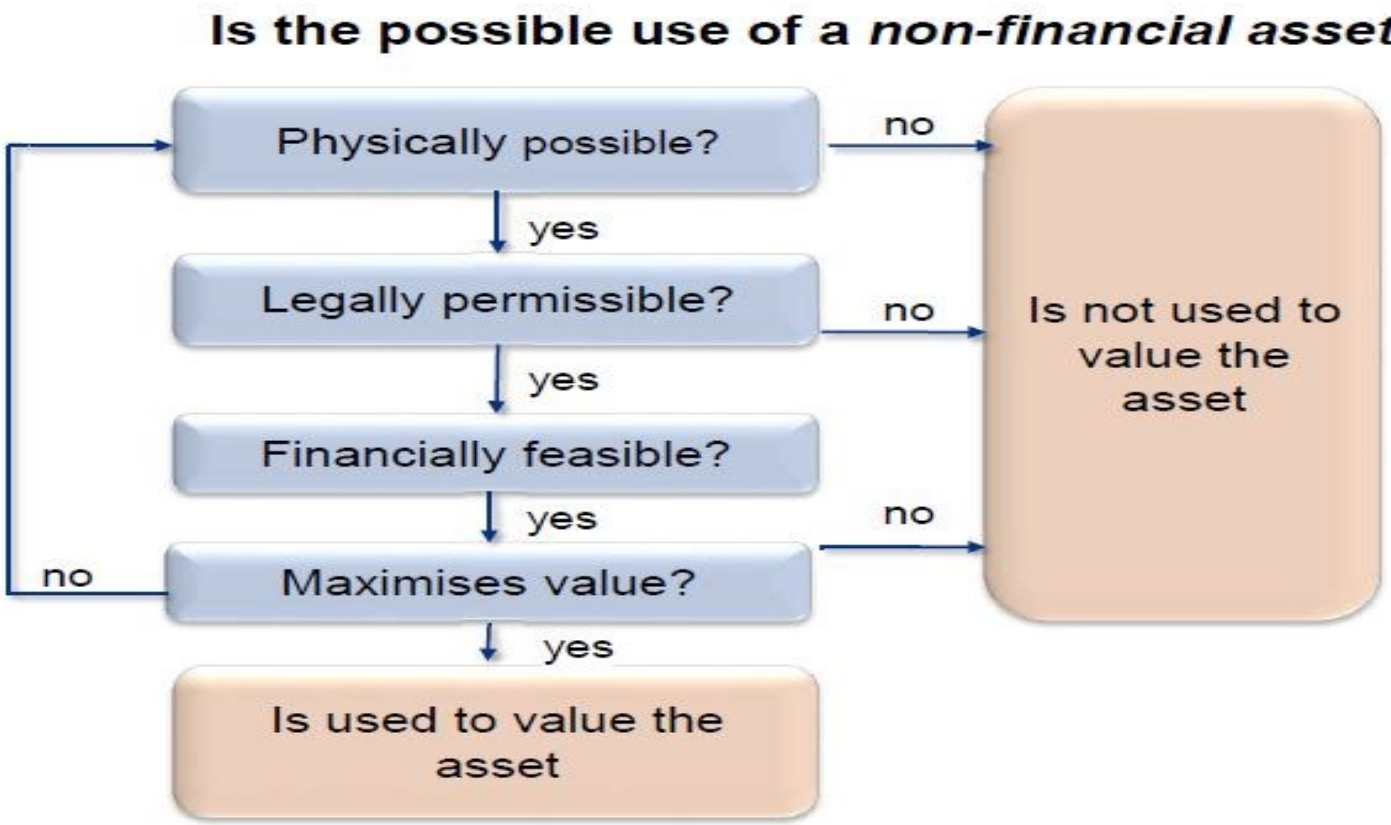
- Highest and best use of asset
- Physical state of asset
- Legal limits or laws
- Restriction on assets

Step 3:

Apply appropriate Valuation technique:

- Market Approach
- Income Earning approach
- Cost Approach

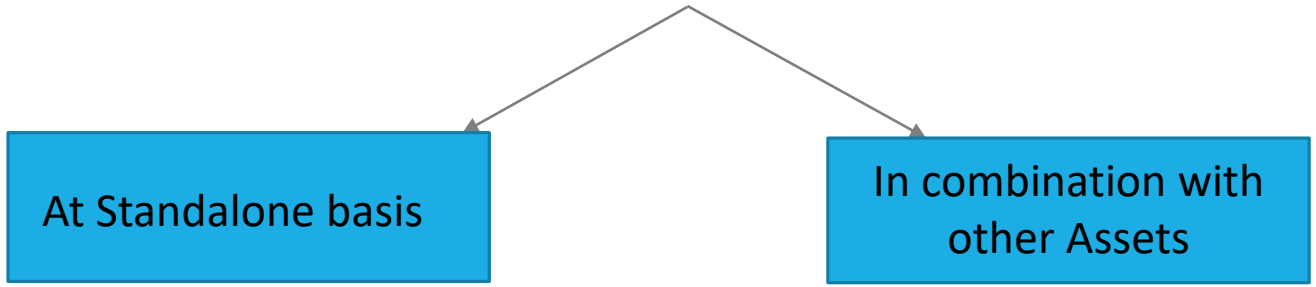
Highest and best Use



Physically Possible	Legally permissible	Financial feasible
• the physical characteristics of the asset that market participants would take into account when pricing the asset • Ex: Location and Size of property	• any legal restrictions on the use of the asset that market participants would take into account when pricing the asset • Ex: The zoning regulations applicable to a property	• whether a use of the asset generates adequate income or cash flows (taking into account the costs of converting the asset to that use) to produce an investment return • Ex: Return on Equity

Valuation Premise for Non financial Asset

The fair measurement value of Non- financial Assets would be based on either



Example:

- Fair Value of Customer Relation (where all future technological updates are provided Complimentary by way of intangible benefit)

Then,

Fair Value = **Value of Customer relationship + Value of Intangible benefits provided free of cost**.

- Fair value of a group of non financial asset might be significantly different than that of its standalone parts (which represent goodwill)

Application to liabilities and own equity instruments

A fair value measurement assumes that a financial or non-financial liability or an entity's own equity instrument (**Ex: equity interests issued as consideration in a business combination)** is transferred to a market participant at the measurement date.

Assumption:

A liability or entity's own equity instrument so transferred would **remain outstanding** on the **measurement date**.

Standard prescribes to use all Observable inputs **(in case no quoted prices are available)** and minimise to use all un- observable inputs.

The transaction considered to find fair value should be evaluated in line with an orderly transaction **(Not at entity specific)**

Inputs used in Valuation

Observable Inputs

- That are developed using market data
- Reflect the assumption that market participant would use while pricing as asset or liability.
- **Example:** Quoted (unadjusted) market price in active market **for Identical assets or liabilities**

Un-Observable Inputs

- For them no market data is available
- Developed using best information available about the assumption that market participants would use.
- **Example:** Everything else (Internal model or **estimate of management**)

Liabilities and equity instruments held by other parties as assets:

When a **quoted price** for the transfer **of an identical** or a similar liability or entity's own equity instrument is **not available** and the **identical item is held by another party as an asset**, an entity shall measure the fair value of the liability or equity instrument from the perspective of a market participant that holds the identical item as an asset at the measurement date.

Steps for Fair Valuation of such asset/liability is as follows:

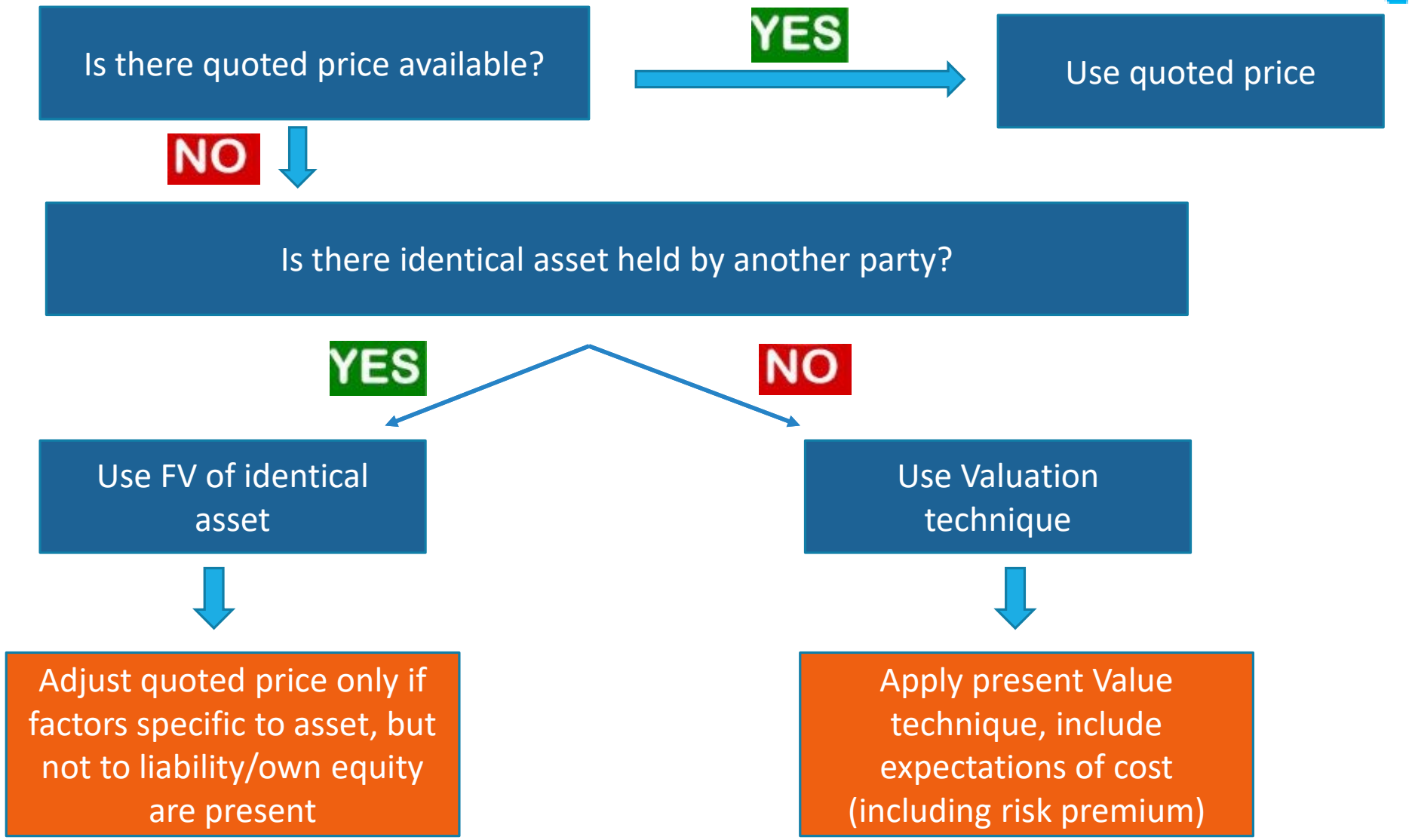
1) Quoted price of Identical asset or liability available
2) If above value not available, then:
   Use Other observable inputs
3) In the absence of Observable inputs, the Valuation techniques are being used.

Liabilities and equity instruments not held by other parties as assets:

When a **quoted price** for the transfer **of an identical** or a similar liability or entity's own equity instrument is **not available** and the **identical item is not held by another party as an asset**, an entity shall measure the fair value of the liability or equity instrument using a valuation technique from the perspective of a market participant that owes the liability or has issued the claim on equity.

For example, when applying a present value technique an entity might take into account either of the following:

1) future cash outflows that a market participant would expect
2) the amount that a market participant would receive to enter into or issue an identical liability or equity instrument.


Is there quoted price available?
YES
Use quoted price
NO
Is there identical asset held by another party?
YES
NO
Use FV of identical asset
Use Valuation technique
Adjust quoted price only if factors specific to asset, but not to liability/own equity are present
Apply present Value technique, include expectations of cost (including risk premium)

Measurement Exception:

Financial assets and Liabilities with offsetting positions

Market Risk of changing foreign Currency

In such case The Ind As allows to Offset

Trade Receivables (US $)

Foreign exchange gain

Trade Payables (US $)

Foreign exchange loss

For example: Certain contracts of derivatives which are being netted with all existing open positions from same counterparty etc.

Valuation Technique

All assets/liability can be fairly valued. Asset include financial /non financial asset.

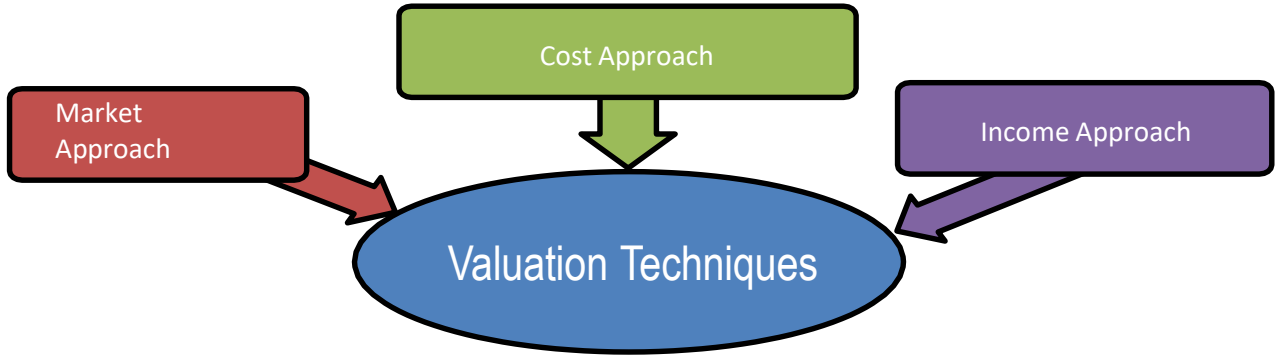
Valuation technique for financial asset/liabilities can be measured at quoted price, present value, cost basis.

FV must be based on **highest and best use** of the asset. For eg, production capacity of the machine should be considered for valuation and not the capacity utilised by the owner.

The inputs required for valuation are based on **both observable & unobservable inputs**.

The techniques for valuation of

the asset/liabilities would include :



MARKET APPROACH

The market approach uses prices and other relevant information generated by market transactions involving identical or comparable (i.e. similar) assets, liabilities or a group of assets and liabilities, such as a business .

Quoted prices are indicative values of any business if it exchanges in an active market. However, in the absence of such quoted prices, it is relevant to value the business based on market values and do some adjustment relevant to the assets/ liabilities. Standard specifies a valuation technique called “Matrix pricing” which is normally used to value debt securities. This technique relates the securities with some similar benchmarked securities including coupons, credit ratings etc. to derive at fair value of the debt.

Example

An entity does not have any security which is quoted in an active market, however its price to earning ratio is being used to corroborate its enterprise value with certain adjustments relevant to the business e.g. there are some specific restrictions to use certain assets for some specific period being in a specialized industry.

INCOME APPROACH

The income approach converts future amounts (e.g. cash flows or income and expenses) to a single current (i.e. discounted) amount. When the income approach is used, the fair value measurement reflects current market expectations about those future amounts.

It is a present value of all future earnings from an entity whose fair values are being evaluated or in other words all future cash flows to be discounted at current date to get fair value of the asset / liability.

Standard defines the below techniques which may be considered while using Income approach

- Present value techniques
- Option pricing modals e.g. **Black-scholes Merton modal or Binomial modal**
- The multi period excess earning method

COST APPROACH

This method describes how much cost is required to replace existing asset/ liability in order to make it in a working condition. All related costs will be its fair value. It actually considers replacement cost of the asset/ liability for which we need to find fair value.

It takes into consideration the following

- Current replacement Cost
- Obsolescence

FAIR VALUE HIERARCHY

In order to establish comparability and consistency in fair value measurement, Ind AS 113 has made some hierarchy to define the level of inputs for fair value. The hierarchy is purely based on the level of inputs available for the specific Asset/ liability for which the fair value is to be measured.

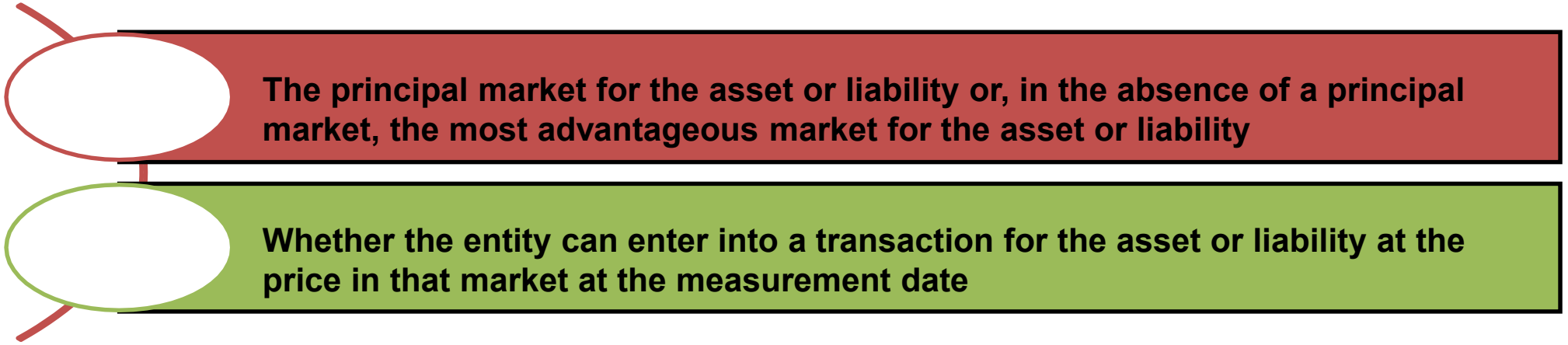
Example

If a market participant would take into account the **effect of a restriction on the sale of an asset** when estimating the price for the asset, an entity would **adjust the quoted price** to reflect the effect of that restriction. If that **quoted price is a Level 2** input and the adjustment is an **unobservable input** that is significant to the entire measurement, the measurement would be **categorized within Level 3 of the fair value hierarchy**.

Level 1 Inputs

Inputs taken from market or quoted price taken- most reliable. Ex: land price can be considered from valuation done by the authority for a particular area in which the land is situated. It is totally based on observable inputs.

A Level 1 input will be available for many financial assets and financial liabilities, some of which might be exchanged in multiple active markets (e.g. on different exchanges). Therefore, the emphasis within Level 1 is on determining both of the following:



Level 2 Inputs

Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.

If the asset or liability has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset or liability. Level 2 inputs include the following:

- (a) quoted prices for similar assets or liabilities in active markets.
- (b) quoted prices for identical or similar assets or liabilities in markets that are not active.
- (c) inputs other than quoted prices that are observable for the asset or liability,

For example:

- (i) interest rates and yield curves observable at commonly quoted intervals;
- (ii) implied volatilities; and
- (iii) credit spreads.
- (iv) market-corroborated inputs

Level 3 Inputs

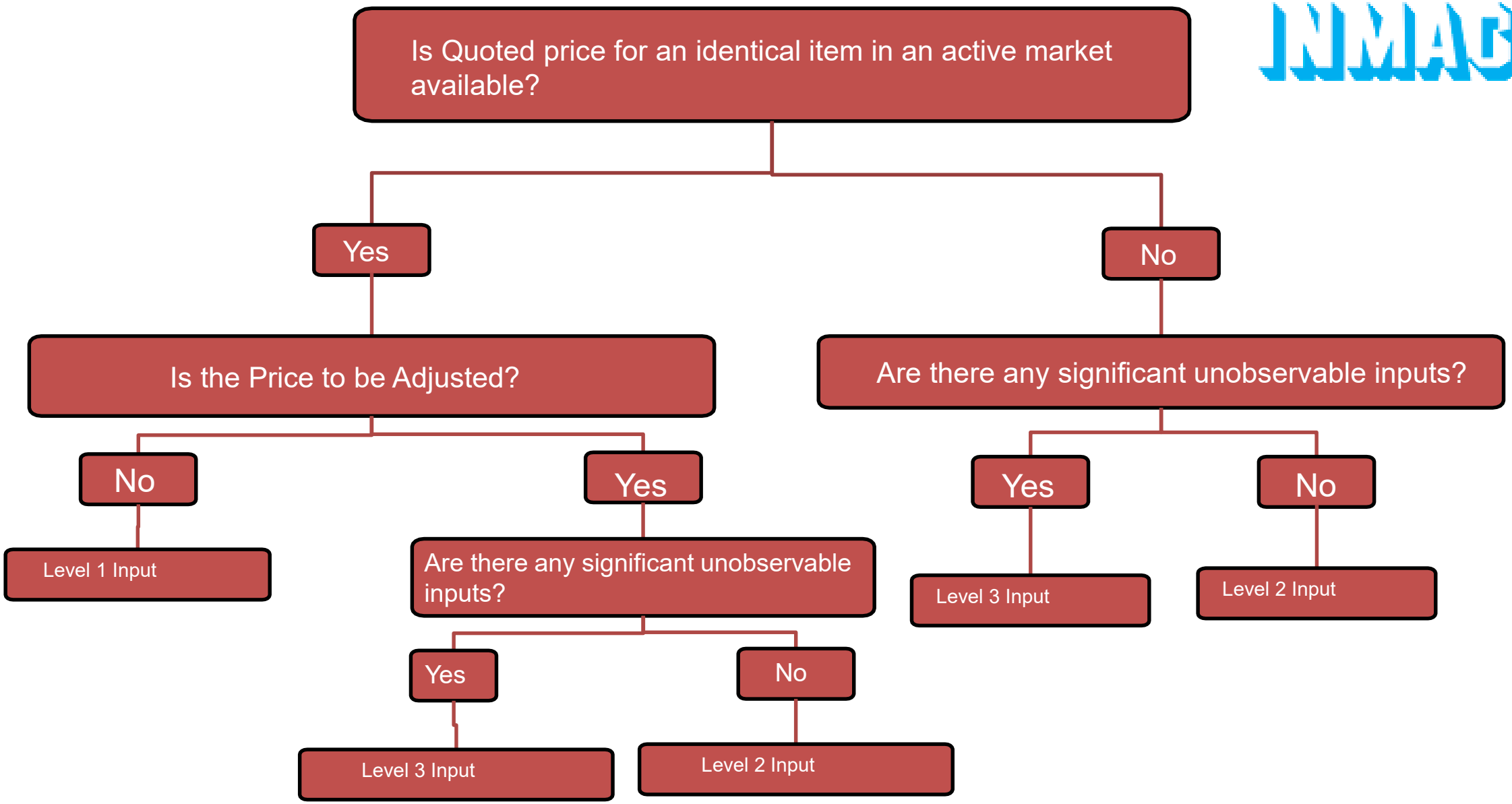
Level 3 inputs are **unobservable inputs** for the asset or liability. Unobservable inputs shall be used to measure fair value to the extent that relevant observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date.

Example : **Interest rate swap**

An adjustment to a mid-market consensus (non-binding) price for the swap is being developed using data that are not directly observable and cannot otherwise be corroborated by observable market data. This would be level 3 Fair value input.

Example : Cash-generating unit

A Level 3 input would be a financial forecast (Ex: of cash flows or profit or loss) developed using the entity's own data, if there is no reasonably available information that indicates usage of different assumptions by market participants.


Is Quoted price for an identical item in an active market available?
Yes
No
Is the Price to be Adjusted?
Are there any significant unobservable inputs?
No
Yes
Yes
No
Level 1 Input
Are there any significant unobservable inputs?
Level 3 Input
Level 2 Input
Yes
No
Level 3 Input
Level 2 Input

DISCLOSURES

An entity shall disclose information that helps users of its financial statements assess both of the following:

- For assets and liabilities that are measured at fair value on a recurring or non-recurring basis in the balance sheet after initial recognition, the valuation techniques and inputs used to develop those measurements.
- For recurring fair value measurements using significant unobservable inputs (Level 3), the effect of the measurements on profit or loss or other comprehensive income for the period.

Example – NHPC disclosure on valuation techniques

B) FAIR VALUATION MEASUREMENT

(i) Fair Value Hierarchy

This section explains the judgements and estimates made in determining the fair values of the financial instruments that are (a) recognised and measured at fair value and (b) measured at amortised cost and for which fair value are disclosed in the financial statements. To provide an indication about the reliability of the inputs used in determining fair value, the company has classified its financial instruments into the following three levels prescribed under Ind AS-113 "Fair Value Measurements"

Level 1: Level 1 hierarchy includes financial instruments measured using quoted prices. This includes listed equity instruments and traded bonds that have quoted price. The fair value of all equity instruments including bonds which are traded in the recognised Stock Exchange and money markets are valued using the closing prices as at the reporting date.

Level 2: The fair value of financial instruments that are not traded in an active market is determined using valuation techniques which maximise the use of observable market data and rely as little as possible on entity-specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in level 2.

Level 3: If one or more of the significant inputs is not based on observable market data, the instrument is included in level 3.This includes security deposits/retention money and loans at below market rates of interest.

(a) Financial Assets Measured at Fair Value-Recurring Fair Value Measurement:

(₹ in Crore)

	Note No.	As at 31st March, 2017 Level 1	As at 31st March, 2016 Level 1	As at 01st Apr, 2015 Level 1
Financial Assets at FVTOCI				
(i) Investments-				
- In Equity Instrument (Quoted)	3.1	112.44	77.65	98.43
- In Debt Instruments (Govt./PSU)-Quoted	3.1	406.97	390.95	781.61
Total		519.41	468.60	880.04

Note:

All other financial assets and financial liabilities have been measured at amortised cost at Balance Sheet date and classified as non-recurring fair value measurement. During the year, Company does not made any transfer within the levels of fair value hierarchy.

Example – NHPC disclosure on valuation techniques

(b) Financial Assets/Liabilities measured at amortised cost for which Fair Values are disclosed:

(₹ in Crore)

Particulars	Note No.	As at 31st March, 2017			As at 31st March, 2016			As at 01st Apr, 2015		
		Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Financial assets										
(i) Loans	3.2									
a) Employees			138.38			136.97			99.99	
b) Loan to Government of Arunachal Pradesh (including Interest accrued)			521.84			478.75			439.23	
c) Others			-			-			12.68	

(₹ in Crore)

Particulars	Note No.	As at 31st March, 2017			As at 31st March, 2016			As at 01st Apr, 2015		
		Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
(ii) Others -Bank Deposits with more than 12 Months Maturity (Including interest accrued)	3.3	0.38			-			-		

ESOP Valuation

- An Employee Stock Option Plan (ESOP) is a plan through which the company grants stock options to the employees based on their performance.
- Stock option gives a right to an employee to acquire the company stock at the pre-determined price over a term which generally extends to many years usually 4 to 10 years.
- Presently, the Indian Accounting Standard (Ind AS) 102 specifies the financial reporting by the company when it undertakes a share-based payment transaction.
- **Companies to whom Ind AS 102 Applies**
  - *Financial Year 2016-17:* Listed and unlisted companies both with net worth above Rs. 500 crores
  - *Financial Year 2017-18:* All listed companies and unlisted companies with net worth above Rs 250 crores

- **Share-based payment transactions-Types**
  - Equity settled share-based payment transactions: Company receives goods/services as consideration for equity instruments. E.g. shares, options, warrants
  - Cash settled share-based payment transactions: Company receives goods/services by incurring a liability to transfer cash or other assets to the supplier for amounts that are based on the price (or value) of the entity's shares. E.g. share appreciation rights
  - Share-based payment transactions with cash alternatives: Either the company or the counterparty (employee or non-employee) has a choice to settle in equity instruments or in cash or other assets

- **Fair value as per Ind AS 102:** For share options granted to employees, in many cases market prices are not available, because the options granted are subject to terms and conditions that do not apply to traded options. If traded options with similar terms and conditions do not exist, the fair value of the options granted shall be estimated by applying an option pricing model.

Formula used For valuing ESOPs

In order to estimate the value of the stock options of the employees, Black-Scholes-Merton method is used, by applying the following formula:

$$C = SN(d_1) - N(d_2)Ke^{-rt}, \text{ where } d_1 = \frac{\ln(S/K)+(r+\sigma^2/2)t}{\sigma\sqrt{t}}, \quad d_2 = d_1 - \sigma\sqrt{t}$$

where,

C = Call Premium

S= Current Stock Price

t= time until option exercise

K= Option striking Price

In= Natural Log

r= Risk-free Interest Rate

N= Cummulative standard normal Distribution

e= Exponential Term

σ= Standard Deviation

Template - Black-Scholes Option Value		
Input Data		
Stock Price now (P)		50
Exercise Price of Option (EX)		50
Number of periods to Exercise in years (t)		5
Compounded Risk-Free Interest Rate (rf)		3.66%
Standard Deviation (annualized s)		62.00%
Output Data	**Formula used**	
Present Value of Exercise Price (PV(EX))	C5*EXP(-C7*C6)	41.6384
s*t^.5	C8*C6^0.5	1.3864
d1	(LN(C4/C5)+(C7+C8*C8/2)*C6)/(C8*C6^0.5)	0.8252
d2	D14-D13	-0.5612
Delta N(d1) Normal Cumulative Density Function	NORMDIST(D14,0,1,TRUE)	0.7954
Bank Loan N(d2)*PV(EX)	NORMDIST(D15,0,1,TRUE)*D12	11.9643
Value of Call	D16*D4-D17	27.8040
Value of Put	D19+D12-D4	19.4424

Click here to access the excel template

Preference Shares valuation

- Ind As 109 deals with Fair valuation of Financial Instruments according to which preference shares need to be separated into Financial liability and Financial assets.
- A preference share may display either equity or liability characteristics depending on the substance of the rights attaching to it.
- The following are the Types of Preference shares:

Types	Classification
Non Redeemable Preference shares	Financial Assets
Mandatory Redemption of Preference shares	Financial Liability
Perpetual Coupon bearing Preference shares	Hybrid instrument (Equity and debt need to be separated)
Redeemable\Convertible at the option of issuer	
Redeemable\Convertible at the option of Holder	

- Ind as 113 sets out the framework for measuring Fair value and applies when another Ind As requires or permits Fair Value measurements.

- Thereby, for Fair Value measurement of preference shares which is a Financial instrument **Ind As 113 is to be referred**, discussed earlier.

- It defines three type of Valuation techniques, which are as follows:

    - Market Approach
    - Income approach
    - Cost Approach

First preference should be given to Market Approach and after that Income Approach and lastly to Cost approach.

Question based on Case Studies

Case 1:

AZ Ltd. is considering to acquire BC Ltd. for the expansion of business operation. It is considering 'income approach' for the valuation of the business of BC Ltd. In income approach of business valuation, a business is valued at the present value of its future earnings or cash flows. Future earnings/cash flows are determined by projecting the business's earnings/cash flows and adjusting them for changes in growth rate, cost structure and taxes, etc. The present value is determined using a discount rate which reflects the required rate of return of the investor. The busineses of AZ Ltd. and BC Ltd are valued at Rs.100 crore and Rs.25 crore respectively. The growth rate of BC Ltd. is 8% and of AZ Ltd. is 16%. The required rate of returns of AZ Ltd. and BC Ltd. are 18% and 12% respectively. PATs of the AZ Ltd. and BC Ltd. are Rs.1000 crore and Rs.450 crore respectively. (d = Discount rate, g = Growth rate)

Q1. What is the annual future earnings of the AZ Ltd. using 'Capitalization of Earning Method'?

a) Rs.150 crore
b) Rs.180 crore
c) Rs.200 crore
d) Rs.190 crore

Q2. Which of the following is the capitalization rate of the BC Ltd.?

a) 5.0%
b) 3 %
c) 4%
d) 4.5%

Q3. There are two income-based approaches that are primarily used when valuing a business, the Capitalization of Cash Flow Method and the _____.

a) Net Present Value Method
b) IRR Method
c) Discounted Cash Flow Method
d) Discounted Payback Period

Answers

1) c.
2) c.
3) c.

Case2:

Mr. Dev, a research analyst, has been hired to value RC Ltd., a company that is currently experiencing rapid growth and expansion. Dev is an expert in the communications industry and has had extensive experience in valuing similar firms. He is convinced that a value for the equity of RC Ltd. can be reliably obtained through the use of a three stage free cash flow to equity (FCFE) model with declining growth in the second stage. Based on up-to date financial statements, he has determined that the current FCFE per share is Rs.1.00. He has prepared a forecast of expected growth rates in FCFE as follows:

Stage 1: 8% for years 1 through 3

Stage 2: 7.0% in year 4, 6.5% in year 5, 6.0% in year 6

Stage 3: 4.0% in year 7 and thereafter

Moreover, Dev has determined that the company has a beta of 1.6. The current risk-free rate is 3.0%, and the equity risk premium is 5.0%.

Other financial information:

Outstanding shares: 100 lakh shares

Tax rate: 40.0%

Interest expense: Rs.30,00,000

Q1. The required rate of return is closest to _____.

a) 10.012%
b) 7.062%
c) 0.062%
c) 11.065%

Q2. The terminal value in year 6 is closest to _____.

a) Rs.22.57
b) Rs.20.42
c) Rs.24.30
d) Rs.25.70

Q3. The per share value Dev should assign to RC Ltd. is closest to _____.

a) Rs.15.35
b) Rs.20.86
c) Rs.17.35
d) Rs.18.46

Q4. The free cash flow to the firm (FCFF) is closest to _____.

a) Rs.130 lakh
b) Rs.112 lakh
c) Rs.118 lakh
d) Rs.124 lakh

Answers

1) c.
2) a.
3) c.
4) c.

Mock Questions

Question 1

Which of the following bonds has the shortest duration?

a) A bond with 20-year maturity, 10% coupon rate
b) A bond with 20-year maturity, 6% coupon rate
c) A bond with 10-year maturity, 6% coupon rate
d) A bond with 10-year maturity, 10% coupon rate

Question 2

Karan bought 1000 share of ABC Limited at Rs.910 through his broker excluding brokerage and taxes. However, the current market price of that share is Rs.915. Here, the amount of Rs.915 reflects _____.

a) value of share
b) cost of investment
c) investment value
d) price of transaction

Question 3

A disadvantage of the Enterprise Value method for valuing equity is that it may be difficult to obtain the information about _____.

a) operating income
b) market value of debt
c) market value of equity
d) cash and cash equivalent

Question 4

Which of the following methods is included in 'Asset based approach' (cost-based approach)?

a) Comparable Companies' Multiple Method
b) Replacement Method
c) Earnings Capitalization Method
d) Discounted Cash Flow Method

Question 5

Typical parameters used in quantitative methods to estimate discount for lack of marketability include _____.

a) duration of the restriction and risk of the investment
b) return of the investment
c) dividends paid
d) market size

Question 6

What adjustment is made while using the Discounted Cash Flow method to value cyclical company?

a) Normalize earnings
b) Use high discount rate
c) Use bank rate for discounting
d) Use high growth rate

Question 7

XYZ company has 50 lakh shares outstanding and plans to raise Rs.20 lakh by offering 10 lakh shares at Rs.2 per share. What is XYZ's post-money valuation?

a) Rs.1.20 crore
b) Rs.1 crore
c) Rs.50 lakh
d) Rs.2 crore

Question 8

What is the value of Three-Year 4.25% Annual Coupon Bond Puttable at Par one year from now if one year forward rates at T (0), T (1) and T (2) are 2.50%, 3% and 4.5% respectively?

a) 101.54
b) 101.71
c) 102.67
d) 102.89

Answers:

1) a.
2) a.
3) b.
4) b.
5) a.
6) a.
7) a.
8) c.

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