

**Batch
XVIII**

Fast Track Webinar Series

for

IBBI Valuation Exam (SFA)

Day 5

FIXED INCOME SECURITIES



Fixed Income Securities

Friday ♦ 2nd FEB 2024 ♦ 08:30 to 09:30 AM ♦ www.3spro.blogspot.com

CA Dr GOPAL KRISHNA RAJU

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Fixed Income Securities Valuation and Risk Management

This book is designed for the students and the professionals who are interested in gaining an understanding of fixed income securities and fixed-income markets comprehensively.

Key Features

- This book intends to give an easy start to non-finance graduates and business professionals
- This book simplifies the complex fixed-income concepts through a user-friendly coherent format.
- The difficult concepts are illustrated and explained in a concise and easy-to-understand manner with real-world data using excel applications, and financial calculator.
- The relationships between the interest rates, the economy, and inflation are well explained
- The valuation of fixed income securities with embedded options using binomial tree models
- The book provides why, when and how to use derivatives in managing the interest rate risk
- The problems and case studies at the end of each chapter reflect how the concepts explained in the chapter could be applied to the real-world situations

About the Author



M Kannadhasan is a professor of finance at the Indian Institute of Management Raipur, where he teaches "Fixed Income Securities" for the MBA program. He holds a Ph.D in finance from Anna University. He has received his bachelor's degree in commerce from Madras University, a Master's in business administration from Bharathiar University, and a Master's in foreign trade from Pondicherry University. Before joining IIM Raipur, he has worked with Bharathidhasan Institute of Management, Trichy.

His research work has appeared in numerous journals of repute, including the International Review of Economics and Finance, Emerging Markets Review, Finance Research Letters, International Journal of Managerial Finance, Applied Economics Letters, The North American Journal of Economics and Finance). He has also published cases with Ivey Publishing, Canada, and listed in Harvard Business Publishing Education. He is also a noted author of a book and three monographs. He has attended the "Global Colloquium on Participant Centred Learning" and "Case writing workshop" program held at Harvard Business School in 2012 and 2014 respectively. He is the recipient of 4th Asia's Best B-Schools Awards - Best Professor in Financial Management" in 2013 from the CMO Asia with CMO Council in Singapore & the USA. He is also the recipient of "Best researcher of the year in Finance" in 2019 from the RULA awards, powered by World Research Council and United Medical Council. Bharat Vikas Award has conferred him on December 14, 2019, for his excellence in the Finance domain. The prestigious award is conferred only to a few selected outstanding people and organisation for their exceptional contribution to the society for their extraordinary devotion in the respective field.

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Fixed Income Securities (7 Marks)

- **Types of fixed income securities:** categories of fixed income securities i.e. debt and preferred stocks along with different rights attached to both categories
- **Types of debt instruments:** sovereign securities; state and local government bonds; semi-government/agency bonds; corporate debt securities; corporate bonds; money market securities in relation to investments (CP, CD, T-Bills); tax free securities; asset backed securities
- **Terms used in fixed income securities:** fixed income securities; bond indenture; issuer and holder; covenants; maturity; par value, coupon rate, clean price, dirty price; repurchase agreement; yield to maturity, yield to put, yield to call; forward rate and spot rate

Fixed Income Securities

- **Bond duration:** Macaulay duration, Modified duration, Effective duration, Key duration
- **Credit rating of bonds:** risk assessment and factors considered in assigning credit rating
- Embedded options for issuer and holder; call/put for repayment; cap and floor on coupon; conversion options; pre-payment options
- **Derivative products:** types of derivative products; calculation of swap rates; valuation of swaps; accruals on swaps
- Related Fixed Income Money Market and Derivatives Association of India circulars for Non-SLR bonds, Traded bonds, Non-traded bonds-rated, Non-traded bonds-not rated, Floating rate bonds, Staggered redemption bonds, Perpetual bonds, Deep discount bonds, Bonds with call/put options, Tax free bonds, Security receipts/Pass through certificates

FIS Pointers

- This chapter in IBBI Valuation exam carries 6 to 8 marks
- FIMMDA – FAQ on Fixed Income Securities
- Master Circular No. DBR No BP.BC.6/21.04.141/2015-16, dated 1st July, 2015, FIMMDA jointly with PDAI publishes – **31/3/2023**
- Bond, Duration, Types of Bond, Bond Holder, Bond Issuer
- YTM, YTC, YTP
- Credit Rating, Interest Rate Derivatives

✓ For FAQ on Fixed Income Securities – link given below
<http://www.fimmda.org/modules/content/?p=1015>

Fixed Income Securities

- **What:** **Fixed income securities** are a type of debt instrument that provides returns in the form of regular, or **fixed**, interest payments and repayments of the principal when the **security** reaches maturity.
- **Who:** The instruments are issued by governments, corporations, and other entities to finance their operations.
- **When:** Typically (**Note:** no formal definition), the fund universe is divided into three segments based on the average maturities of the **bonds** in the funds' portfolios: **Short-term** (less than 5 years) **Intermediate-term** (5 to 10 years) **Long-term** (more than 10 years)

<https://rbidocs.rbi.org.in/rdocs/notification/PDFs/81MDBANKS25082021BCOCC10147494867ADAA6285904566BB.PDF>

1. Who **Regulates** Indian G-Secs and Debt Market?

- a) **SEBI**
- b) **RBI**
- c) **IBBI**
- d) **PFRDA**

2. What yield/return is derived by the investor on purchase of the instrument, which is calculated by dividing the coupon rate by the purchase price of the bond?

- a) Yield to Maturity**
- b) Current Yield**
- c) Yield to Call**
- d) Yield to Put**

3. is an indicator of the ability of the issuer of the fixed income security to pay back his obligation. The of fixed-income securities is usually assessed by independent agencies

- a) Credit Rating**
- b) Credit Quality**
- c) Solvency**
- d) Credit Worthiness**

Pointers

1. **Dirty Price = Clean Price + Accrued Interest**
2. If the YTM is less than the bond's coupon rate, then the market value of the bond is greater than par value (premium bond).
3. If a bond's coupon rate is less than its YTM, then the bond is selling at a discount.
4. If a bond's coupon rate is equal to its YTM, then the bond is selling at par.
5. **Duration** is inversely related to the bond's **coupon rate**.
6. **Duration** is inversely related to the bond's **YTM**.
7. **Duration** can increase or decrease given an increase in the **maturity time**

Pointers...

8. **Maturity Period of CP:** Commercial papers have a minimum maturity of **7 days** and a maximum of up to **1 year** from the date of issue. However, the maturity date of the instrument typically should not go beyond the date up to which the credit rating of the issuer is valid.
9. **FV of CP:** The face value of Commercial Paper is in the denomination of **Rs. 5 Lakhs** and multiples thereof.
10. **Bond Prices & Interest Rates:** A fundamental principle of bond investing is that market interest rates and bond prices generally **move in opposite directions**. When market interest rates rise, prices of fixed-rate bonds fall. This phenomenon is known as interest rate risk.

4. As per RBI, Commercial paper can be issued for the **maximum duration of:**

- a) 1 year**
- b) 3 years**
- c) the date up to which the credit rating of the issuer is valid**
- d) 274 days**

5. As per FIMMDA, What is the **minimum maturity of Certificate of Deposit? (CDs are short-term borrowings in the form of Usance Promissory Notes)**

- a) 3 days**
- b) 7 days**
- c) 15 days**
- d) 30 days**

6. WHAT is the price of a bond excluding any interest that has accrued since issue or the most recent coupon payment?

- a) Dirty price**
- b) Clean price**
- c) Fair price**
- d) Issue price**

7. WHAT is the price of a bond including the accrued interest

- a) Dirty price**
- b) Clean price**
- c) Fair price**
- d) Issue price**

Pointers.....



Modified
Duration



$$= \frac{\text{Macaulay Duration}}{\left(1 + \frac{\text{YTM}}{n}\right)}$$

FIMMDA - Valuation of Investments - RBI Circular – link below

https://www.fimmda.org/Uploads/general/Valuation_of_Investment_as_on_31st_March_2022.pdf

- 11. Duration :** The Macaulay duration is the weighted average term to maturity of the cash flows from a bond. The weight of each cash flow is determined by dividing the present value of the cash flow by the price.
- 12. Modified Duration:** The Modified duration measures the **price sensitivity of a bond** when there is a change in the yield to maturity.
- 13. Effective Duration:** Effective duration is a duration calculation for bonds that have embedded options.

Valuation of Investments (31st March 2022)

- In accordance with the RBI instructions, as enshrined in their Master Circular No. DBR No BP.BC.6 /21.04.141/2015-16, dated 1st July, 2015, FIMMDA jointly with PDAI publishes
- Prices/ rates for valuation of government securities, bonds, debentures and swaps.
- FIMMDA also issues guidelines / clarifications at periodical intervals in respect of the methodology to be followed for valuation.
- Last such guidelines were issued on 31st March 2022




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Guidelines on Valuation of Investments

- Last such guidelines were issued on 31st March 2023
- https://www.fimmda.org/Uploads/general/FIMMDA_VOI_Circular_for_2023_Updated_as_on_31-03-2023.pdf



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*Nurturing Markets,
Widening Horizons*

8. The valuation of investment circular issued by the FIMMDA, publishes:

- a) The prices/rates for valuation of government securities, bonds, debentures and swaps
- b) Issues guidelines/ clarification at periodic intervals in respect of the methodology to be followed for valuation
- c) Both (a) and (b)
- d) Either (a) or (b)

9. As per the valuation of investment circular issued by the FIMMDA, treasury bill is valued at:

- a) Carrying cost
- b) Maturity cost
- c) Market value
- d) Fair Value



*Nurturing Markets,
Widening Horizons*

10. As per the evaluation of investment circular issued by the FIMMDA, all central government securities which qualify for SLR as well as which do not qualify for SLR will be valued as per prices (yields) published by:

- a) RBI
- b) FIMMDA
- c) Central government
- d) FBIL



11. As per the valuation of investment circular issued by FIMMDA, commercial paper/certificate of deposits of tenor less than one year are valued at:

- a) Carrying cost**
- b) Maturity cost**
- c) Market value**
- d) Fair Value**

12. As per the valuation of investment circular issued by the FIMMDA, security receipts will be valued at:

- a) Carrying cost**
- b) Maturity cost**
- c) Net Asset value given by issuing reconstruction company**
- d) Fair Value**

13. Valuation of SLR and Non-SLR Bonds and Securities shall be made as per the Valuation of Investment Circular issued and updated yearly by:

- a) Reserve Bank of India**
- b) FIMMDA**
- c) Ministry of Finance**
- d) SEBI**

Pointers.....

- 14. CAMELS** is an international **rating** system used by regulatory banking authorities to rate financial institutions, according to the six factors represented by its acronym.
- 15.** The **CAMELS** acronym stands for "Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivity."
- 16. Junk bonds** are high-paying **bonds** with a lower credit **rating** than investment-grade corporate **bonds**, Treasury **bonds**, and municipal **bonds**. **Junk bonds** are typically **rated** 'BB' or lower by Standard & Poor's and 'Ba' or lower by Moody's.

C - Capital Adequacy (20%)

A - Asset Quality (20%)

M - Management (25%)

E - Earnings (15%)

L - Liquidity (10%)

S - Sensitivity (10%)

Pointers.....

17. Subordinated debt (also known as a **subordinated debenture**) is an unsecured loan or **bond** that ranks below other, more senior loans or securities with respect to claims on assets or earnings. **Subordinated debentures** are thus also known as junior securities.

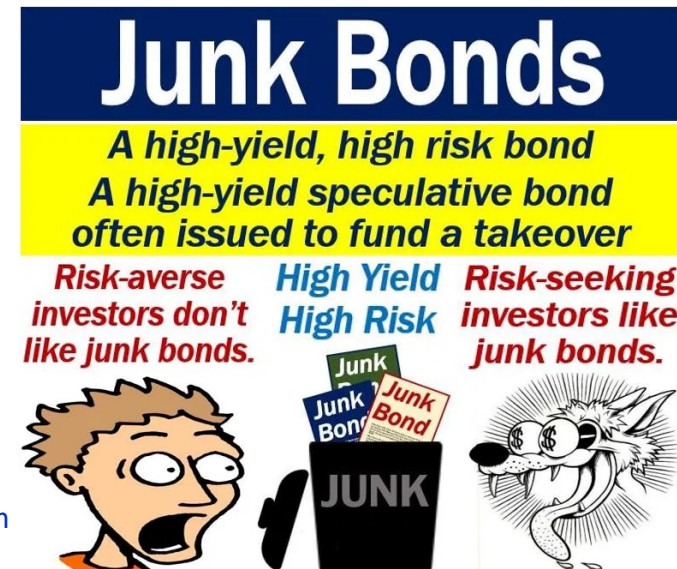
18. Subordinated debt is debt which ranks after other debts if a company falls into liquidation or bankruptcy. Such debt is referred to as 'subordinate', because the debt providers have subordinate status in relationship to the normal debt

14. CAMELS model stands for:

- a) Capital Asset Management Economic Liability
Sensitivity**
- b) Capital Asset Management Earning License
Suitability**
- c) Capital Accrual Management Earning Liquidity
Susceptibility**
- d) Capital Assets Management Earning Liquidity
Sensitivity**

15. Bonds which have not received credit rating are called:

- a) Investment-grade bonds
- b) Junk bonds
- c) Bonds able to meet payment obligation
- d) Low yield bonds



16. **First** rating agency of India is

- a) **SME Rating Agency of India Limited (SMERA)**
- b) **Investment Information and Credit Rating Agency of India Limited (ICRA)**
- c) **Credit Rating Information Services of India Limited(CRISIL)**
- d) **Credit and Research Limited (CARE)**



17. is a high-risk , high-yield bond rated below investment grade while an bond has its interest payment contingent on sufficient earnings of the firm.

- a) A subordinate debenture, mortgage
- b) A debenture, subordinate debenture
- c) A junk bond, income
- d) An income bond, mortgage

Income Bonds

- ◆ *Income bonds* pay interest only if the firm earns it
- ◆ For example, an income bond may be issued to finance an income-producing project

18. If the coupon rate of a bond isthe yield to maturity , the price of the bond should be the par value:

- a) Below, above**
- b) Above, below**
- c) Above, Above**
- d) Below, Below**

Yield	Price	Duration
↑	↓	↓
↓	↑	↑



19. If yield to maturity increase:

- a) Present value of cash flow goes down
- b) Future value of cash flow goes down
- c) Present value of cash flow goes up
- d) Future value of cash flow goes up

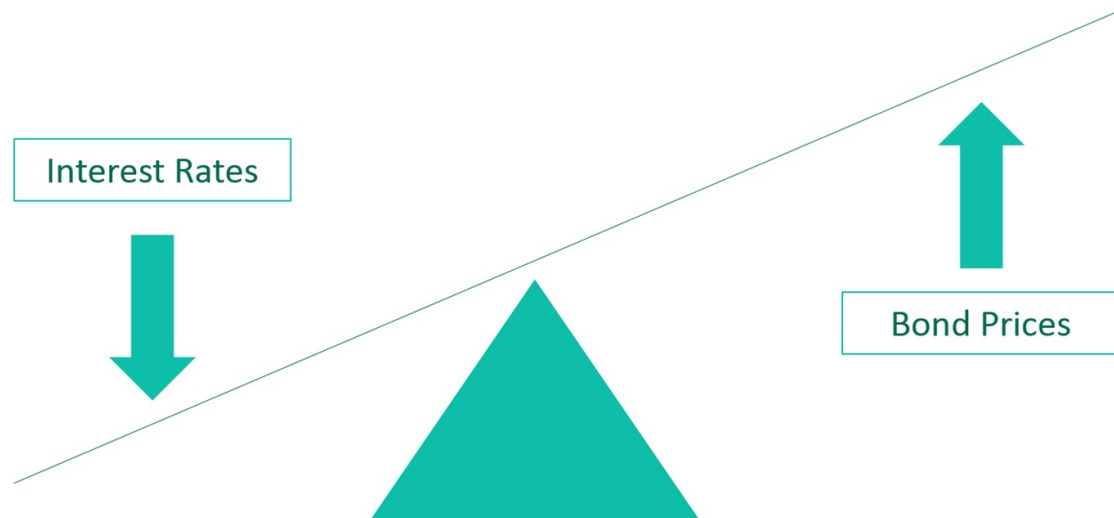
Yield	Price	Duration
↑	↓	↓
↓	↑	↑

20. Yield to maturity on a bond has decreased from 8% to 7% then the duration of bond shall be:

- a) Increased**
- b) Fixed**
- c) Decreased**
- d) No change**

21. Interest rate and bond prices are:

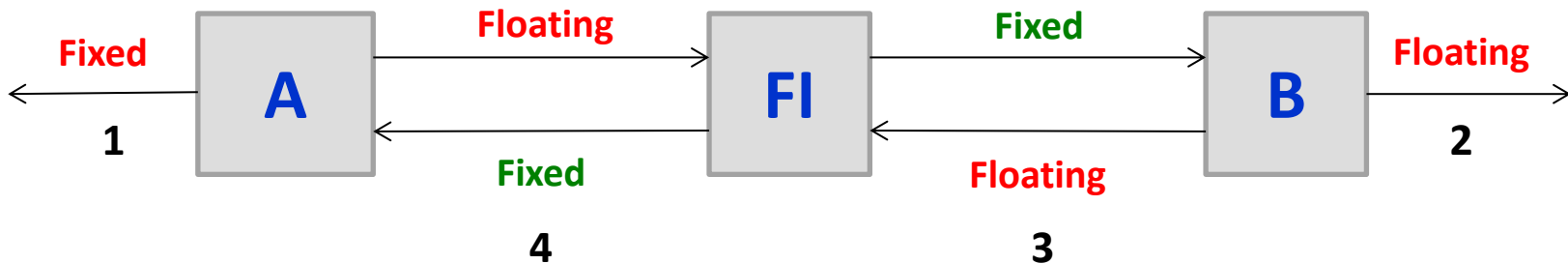
- a) Move in same direction
- b) Move on opposite direction
- c) Have no relationship
- d) Sometimes in same direction , in opposite direction other times



Interest Rate Swap

19. An interest rate swap is a type of a derivative contract through which two counterparties agree to exchange one stream of future interest payments for another, based on a specified principal amount.

20. In most cases, interest rate swaps include the exchange of a **fixed interest rate** for a **floating rate**



22. A/An is a forward contract in which one stream of future interest payment is exchanged for another based on a notional (specified) principal amount:

- a) Swap**
- b) Interest rate swap**
- c) Currency swap**
- d) NOTA**

23. A/An is an agreement in which two parties exchange the principal amount of a loan and the interest in one currency for the principal and interest in another currency. At the inception of the swap, the equivalent principal amounts are exchanged at the spot rate.

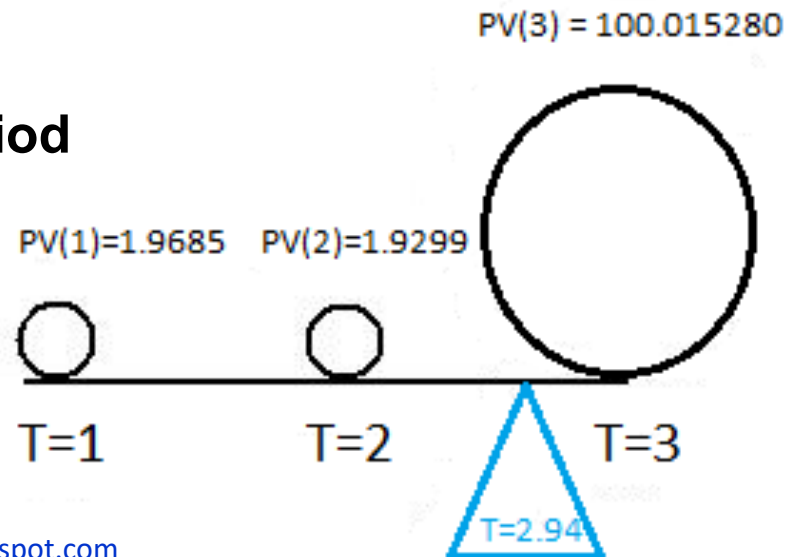
- a) Swap**
- b) Interest rate swap**
- c) Currency swap**
- d) NOTA**

- 21. An embedded option is a component of a financial bond or other security, and usually provides the bondholder or the issuer the right to take some action against the other party.**
22. There are several types of options that can be embedded into a bond. Some common types of bonds with embedded options include callable bond, puttable bond, convertible bond, extendible bond, exchangeable bond, and capped floating rate note.
23. A bond may have several options embedded if they are not mutually exclusive.
24. Securities other than bonds that may have embedded options include senior equity, convertible preferred stock and exchangeable preferred stock.

Bonds with embedded options

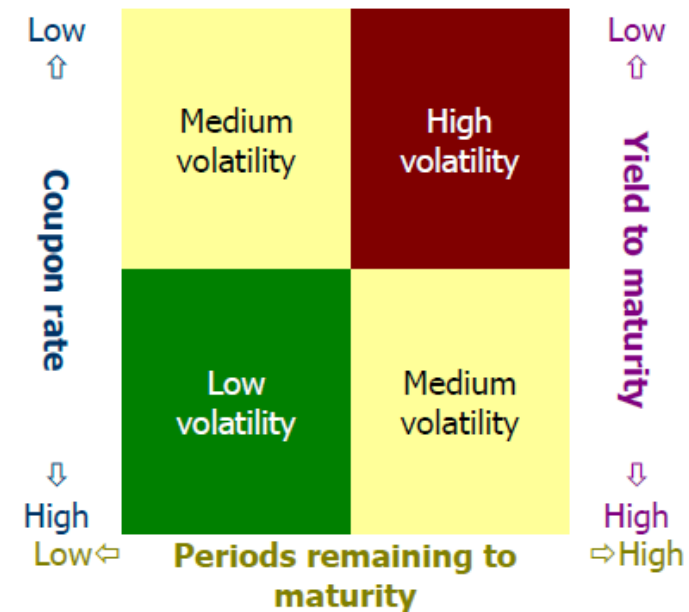
Duration & See-Saw

- Imagine a **seesaw** with several (one for each cash flow) buckets that are the height of the nominal cash flows.
- The buckets are filled with water to a level that represents the present value of the cash flows.
- **Duration** is the location of the fulcrum that results in a balanced **seesaw**.
- Duration = Discounted Pay Back Period



Bond Relationships

Type	MP and FV	YTM & Coupon
Discount	$MP < FV$	$YTM > \text{Coupon}$
Par	$MP = FV$	$YTM = \text{Coupon}$
Premium	$MP > FV$	$YTM < \text{Coupon}$



24. Face Value of the Bond is Rs 1000 for each of the Bond; Find the missing numbers?

Bond Type	A	B
Issue Price	900	1050
Coupon (p.a)	10%	12%
Tenor	8	8
Redemption Price	1100	950
Frequency of Coupon in a year	1	1
YTM (%)	?	?
Duration (Years)	?	?
Modified Duration (Times)	?	?

25. Plot Yield Curve and find which Bond Type is downward-sloping & which is upward-sloping?

Bond Type	A	B
Issue Price	900	1050
Coupon (p.a)	10%	12%
Tenor	8	8
Redemption Price	1100	950
Frequency of Coupon in a year	1	1

26. Find the Yield-to-Call from Issuer perspective if Each bond is called as given below

Bond Type	A	B
Issue Price	900	1050
Coupon (p.a)	10%	12%
Tenor	8	8
Redemption Price	1100	950
Frequency of Coupon in a year	1	1
Call option exercised at the end of year	5	5

27. For the following data; Calculate YTM, Duration & Modified Duration of Bond:

Modified Duration Formula



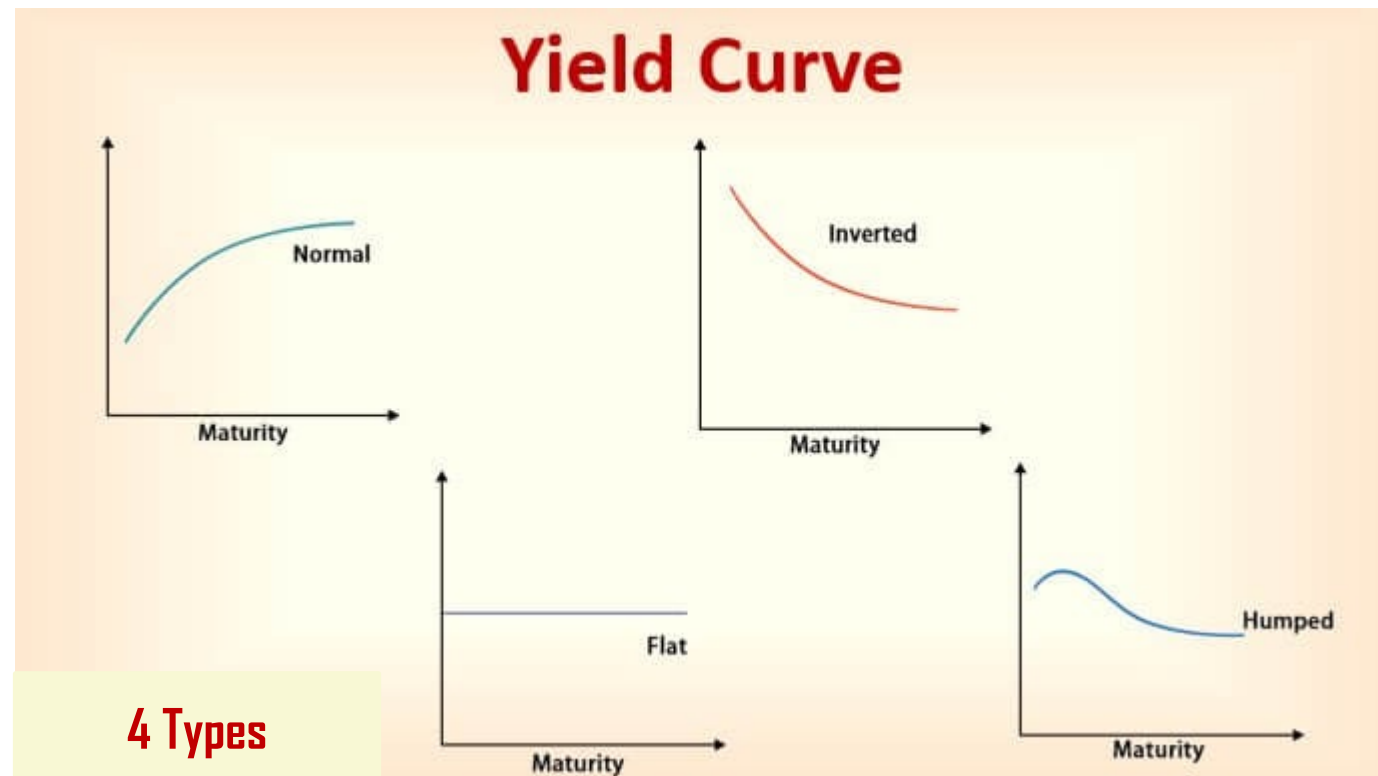
- ✓ FV = 100
- ✓ Issue Price = 92 (at discount)
- ✓ Coupon = 11% p.a
- ✓ Tenor = 9 years (Maturity Period)
- ✓ Redemption Price = 112 (at premium)
- YTM = ?
- Duration = ?
- Modified Duration = ?
- YTC?



$$\text{Modified Duration} = \frac{\text{Macaulay Duration}}{\left[1 + \left(\frac{\text{YTM}}{n} \right) \right]}$$

27A. Yield to Maturity of the Bond is?

- a) 11.25%
- b) 13.35%
- c) 12.85%
- d) 13.15%



27B. Duration of the Bond is?

- a) 6.01 years**
- b) 7.22 years**
- c) 6.08 years**
- d) 7.68 years**

27C. Modified Duration of the Bond is?

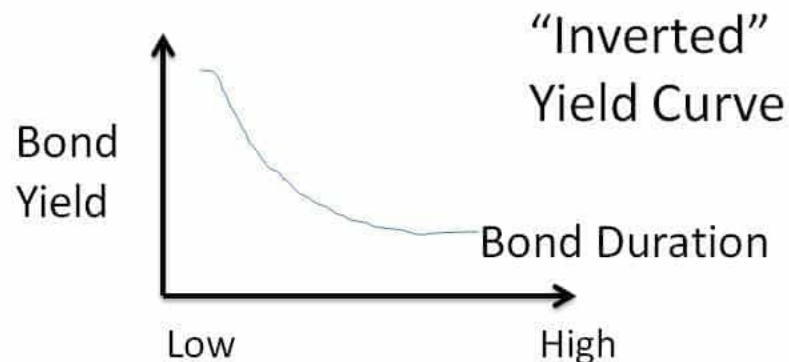
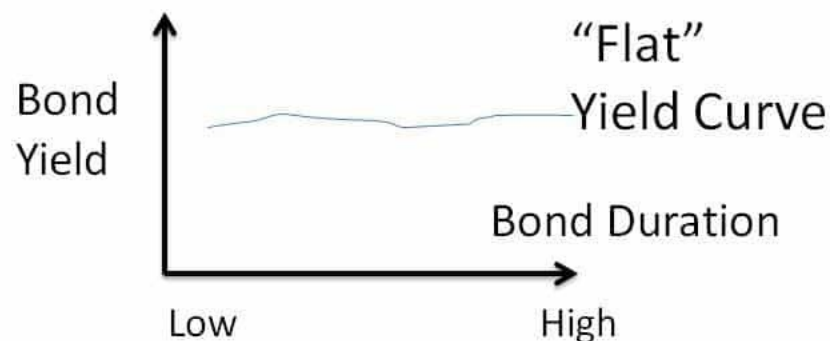
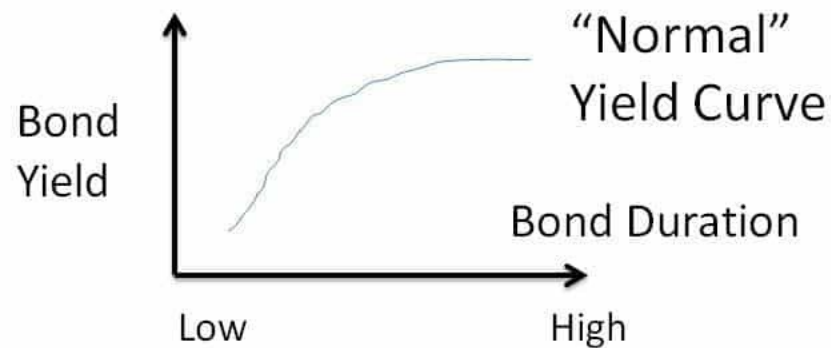
- a) 5.73 times**
- b) 5.37 times**
- c) 6.21 times**
- d) 5.93 times**

27D. What is Yield to Call if the Call option is with Issuer and the bond has a lock-in-period of 4 years and called at end of 5th year?

- a) 12.17%**
- b) 13.17%**
- c) 14.17%**
- d) 15.17%**

Yield Curve

- The **yield curve** is a curve showing several yields to maturity or interest rates across different contract lengths (2 month, 2 year, 20 year, etc. ...) for a similar debt contract.
- The curve shows the relation between the (level of the) interest rate (or cost of borrowing) and the time to maturity, known as the "term", of the debt for a given borrower in a given currency.



28. Yield curve:

a) Effective duration

b) Modified duration

c) Rate duration

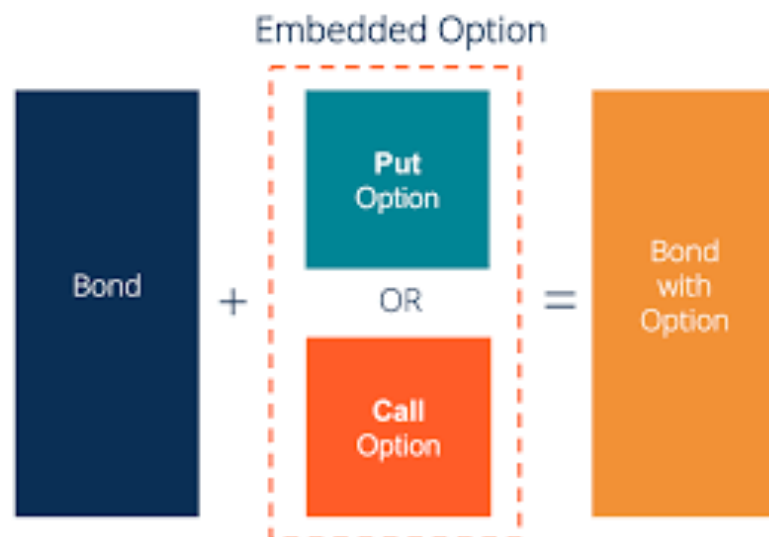
d) Macaulay duration

- Effective duration measures interest rate risk in terms of a change in the benchmark yield curve.
- It is very similar to approximate modified duration.
- A pricing model can be used to estimate the price change resulting from a change in the benchmark yield curve instead of the bond's own yield-to-maturity.

- Modified duration is the Macaulay duration statistic divided by one plus the yield to maturity per period.
- Effective duration is the sensitivity of the bond's price to a change in a benchmark yield curve, as opposed to the price response to a change in the bond's own yield.

29.is a provision in a Bond that gives either the Issuer or the Holder the right to take action in the future:

- a) Conversion option**
- b) Embedded option**
- c) Puttable option**
- d) Callable option**



30. A one basis point decrease in yield on a bond with a duration of 10 years and a yield to maturity of 11% produces a change in the price of a Rs 100 face value bond from Rs 90.00 to:

a) 90.05

b) 89.92

c) 90.11

d) 90.09

$$\text{Modified Duration} = \frac{\text{Macaulay Duration}}{1 + \frac{\text{Yield to maturity}}{\text{Number of coupon periods per year}}}$$

31. A coupon bond that pays interest of Rs 100 annually has a par value of Rs 1,000, matures in 5 years, and is selling today at a Rs 72 discount from par value. The yield to maturity on this bond is

- a) 6.00%**
- b) 8.33%**
- c) 10.39%**
- d) 12.00%**
- e) 60.00%**

Spot and Forward Rates

An investor wants to invest his funds for two years. He is faced with two choices:

- Directly invest in a 2-year bond
- Invest in a one-year bond, and again invest the proceeds after one year in a one year bond.

Assuming the same nature of investments, the returns from both choices should be the same.

- Let's say s_1 is the one-year spot rate, s_2 is the two-year spot rate and f_1 is the one year forward rate one year from now.
- Assuming Rs 1 as the initial investment, the value of investment in first choice after two years: $= (1+s_2)^2$
- The value of investment in second choice after two years: $= (1+s_1) (1+f_1)$. If there are no arbitrage opportunities, both these values should be the same.

$$(1+s_2)^2 = (1+s_1) (1+f_1)$$

- If we have the spot rates, we can rearrange the above equation to calculate the one-year forward rate one year from now.

$$f_1 = (1+s_2)^2 / (1+s_1) - 1$$

32. If Spot rate for $T(0)$ and $T(1)$ is 6% and 6.5%. The first year forward rate will be

- a) 6.00%**
- b) 7.00%**
- c) 6.50%**
- d) 5.50%**

Zero-Coupon Bonds & Deep Discount Bonds

- Deep discount bonds and zero coupon bonds are similar in the sense that both the instruments do not pay coupon interest.
- The difference between the issue price and face value is treated as interest in the case of deep discount bonds while the same difference is treated as capital gains in the case of zero coupon bonds.
- **STRIP Bond:** An investor who buys the separated principal from the bond, known as the residue, receives an amount equal to the face value of the bond when it matures.

Zero-Coupon Bonds, Residue & STRIPS

- Zero coupon bonds have a duration equal to the bond's time to maturity, which makes them sensitive to any changes in the interest rates.
- Investment banks or dealers may separate coupons from the principal of coupon bonds, which is known as the residue, so that different investors may receive the principal and each of the coupon payments. This creates a supply of new zero coupon bonds.
- The [coupons](#) and [residue](#) are sold separately to investors. Each of these investments then pays a single lump sum. This method of creating zero coupon bonds is known as stripping and the contracts are known as strip bonds.
- "STRIPS" stands for Separate Trading of Registered Interest and Principal Securities.

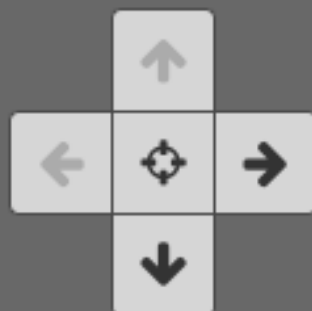
33. An investor who buys the separated principal from the bond, known as

- a) STRIPS**
- b) Residue**
- c) Coupon**
- d) Deep-Discount Bond**

Spread Matrix



Butterfly		Vertical		Cancel All		Cancel Spreads		Cancel Outrights			
48.79	29	49.25	1	50.00	1	49.40	1	50.70	1	49.74	2
48.78	7	48.80	1	48.72	1	49.10	1	48.42	13	49.21	10
CL Sep17		CL Oct17		CL Nov17		CL Dec17		CL Jan18		CL Feb18	
CL Sep17		-0.14	2796	-0.31	58	-0.46	41	-0.60	9	-0.40	5
		-0.15	4941	-0.32	164	-0.47	18	-0.62	8	-0.80	5
48.79	29	CL Oct17		-0.16	2245	-0.32	53	-0.46	14	-0.56	4
48.78	7			-0.17	1006	-0.33	20	-0.47	127	-0.58	3
-11		49.25	1	CL Nov17		-0.15	779	-0.30	10	-0.39	5
		48.80	1			-0.17	1602	-0.31	91	-0.41	8
		5		50.00	1	CL Dec17		-0.13	2199	-0.24	16
				48.72	1			-0.15	1683	-0.25	10
				10		49.40	1	CL Jan18		-0.10	68
						49.10	1			-0.11	778
						-5		50.70	1	CL Feb18	
								48.42	13		
								135		49.74	2
										49.21	10
										-160	



Crude Oil Futures +

34. FIMMDA spread matrix is to be used for valuation of bonds which **have not traded in the market. The spreads must be to the base yield corresponding to the residual maturity and not the original maturity.**

- a) Added**
- b) Subtracted**
- c) Multiplied**
- d) Depends on Maturity Period**

The Spread Matrix provides you the ability to view market data for multiple instruments and the spreads between those outright instruments. Use the Spread Matrix to view market data and quickly enter orders for all contract expirations of a product in a single screen

Formulae's

$$YTM = \frac{C + \frac{FV - PV}{t}}{\frac{FV + PV}{2}}$$

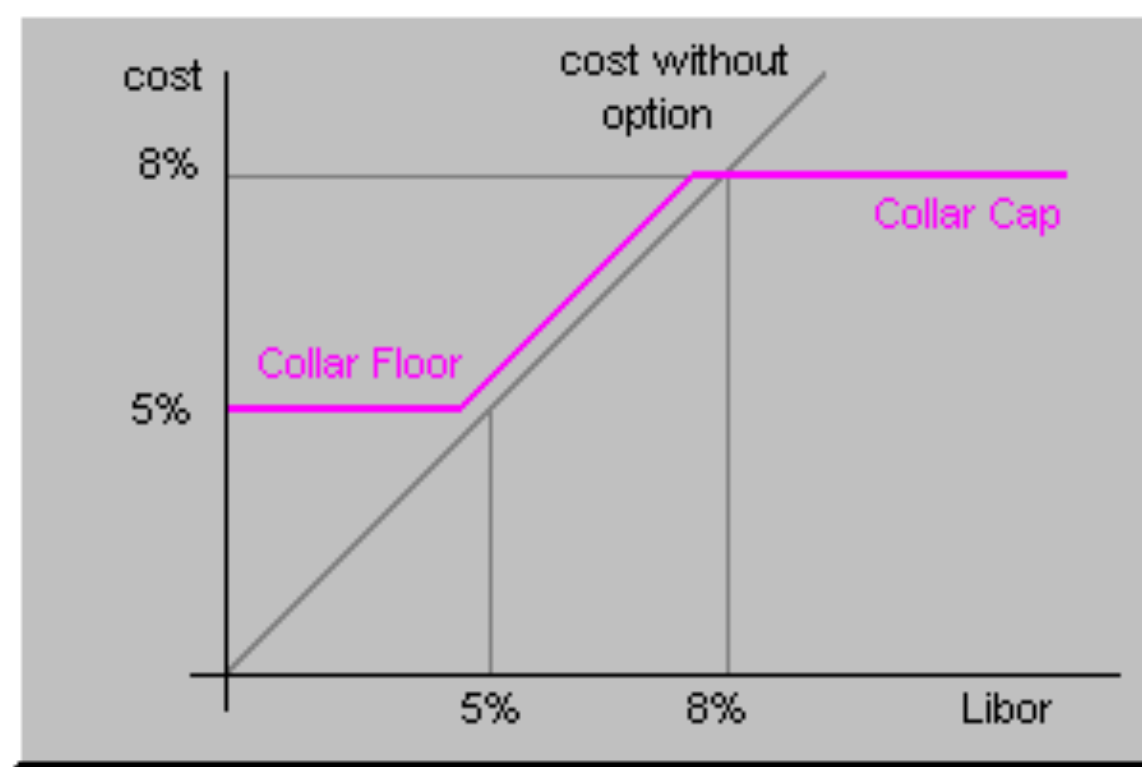
- Dirty Price = Clean Price + Accrued Interest
- **Caution:** YTM using approximate method (thumb-rule formula) and exact method
- Modified Duration = Macaulay Duration / [1 + (YTM/n)]

The yield to call (YTC) is a calculation of the total return of a bond based off of the purchase price, the par value, and how much will be received in coupon payments until the call date.

- $YTC = [C + \{(CP - P) / t\}] / [(CP + P) / 2]$
- FV = Future Value / Redemption Value
- PV = Present Value / Price of the Bond
- CP = Call Price of the Bond

Interest Rate Cap & Floor

- An interest rate cap is a type of interest rate derivative in which the buyer (Borrower) receives payments at the end of each period in which the interest rate exceeds the agreed strike price.
- An interest rate floor is a derivative contract in which the buyer (Lender) receives payments at the end of each period in which the interest rate is below the agreed strike price
- Caps and floors can be used to hedge against interest rate fluctuations.
- A cap is a call option on the future realization of a given underlying LIBOR rate. More specifically, it is a collection of caplets, each of which is a call option on the LIBOR at a specified date in the future. A series of caplets or cap can extend for up to 10 years in most markets.



35. A/An is a derivative contract in which the buyer receives payments at the end of each period in which the interest rate is below the agreed strike price.

- a) Interest Rate Cap**
- b) Interest Rate Floor**
- c) Interest Rate Collar**
- d) Interest Rate Swap**

Sovereign Bonds

- A government bond or sovereign bond is a bond issued by a national/state government, generally with a promise to pay periodic interest payments called coupon payments and to repay the face value on the maturity date.
- The aim of a government bond is to support government spending. Government bonds are usually denominated in the country's own currency, in which case the government cannot be forced to default, although it may choose to do so.
- If a government is close to default on its debt the media often refer to this as a sovereign debt crisis.

36. is a bond issued by a government, generally with a promise to pay periodic interest payments called coupon payments and to repay the face value on the maturity date.

- a) Agency Bond**
- b) Semi-Government Bond**
- c) Sovereign Bond**
- d) Corporate Bond**

37. The minimum credit rating for commercial paper shall be [As per rating symbol and definition prescribed by Securities and Exchange Board of India (SEBI)].

- a) A 1**
- b) A 2**
- c) A 3**
- d) B**
- e) BB**

**38. If Control Premium is 30%, and the DLOM is 15%,
What is DLOC & Total Discount:**

- a) 23.30%; 35.72%**
- b) 23.15%; 33.35%**
- c) 29.52%; 28.72%**
- d) 23.08%; 34.62%**

39. bonds are bonds issued outside India but denominated in Indian Rupees, rather than the local currency.

- a) Yankee Bonds**
- b) Samurai Bonds**
- c) Masala Bonds**
- d) Exchangeable Bonds**

Kindly Note

- ✓ *After investing substantial amount of time and Himalayan size of Efforts, Research & Pain; this material is brought out. Your acknowledgement in the blog by few words is be an encouragement for this Hard Work*
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$$\text{DLOC} = 1 - (1 / (1 + \text{Control Premium}))$$

$$\text{Total Discount} = 1 - [(1 - \text{DLOC}) * (1 - \text{DLOM})]$$

Exam Pointers

- **Commercial Paper:** The minimum credit rating shall be **A-3** *[As per rating symbol and definition prescribed by Securities and Exchange Board of India (SEBI)].*

23 Types of Bonds

1. Plain Vanilla Bonds
2. Zero Coupon Bonds
3. Deferred Coupon Bonds
4. Step-up Bonds
5. Step-Down Bonds
6. Floating Rate Bonds
7. Inverse Floaters
8. Participatory Bonds
9. Income Bonds
10. Payment in Kind Bonds
11. Extendable Bonds
12. Extendable Reset Bonds
13. Perpetual Bonds
14. Convertible Bonds
15. Foreign Currency Convertible Bonds
16. Exchangeable Bonds
17. Callable Bonds
18. Puttable Bonds
19. Treasury Strips
20. Yankee Bonds
21. Samurai Bonds
22. Uridashi Bonds
23. Masala Bonds

41. Short term bonds have a maturity of

- a) Less than one year**
- b) 1-2 years**
- c) 1-3 years**
- d) 3-10 years**

42. Medium-term bonds have a maturity of more than

- a) 1-3 years**
- b) 1-5 years**
- c) 3-5 years**
- d) 3-10 years**

43. Long term bonds have a maturity of more than

- a) 5 years**
- b) 7 years**
- c) 10 years**
- d) 15 years**

Think of value creation, not valuation

1	b	11	a	21	c	31	a	41	c
2	b	12	c	22	d	32	a	42	d
3	b	13	b	23	a	33	b	43	c
4	c	14	d	24	b	34	a		
5	c	15	b	25		35	b		
6	b	16	c	26		36	c		
7	a	17	c	27A		37	b		
8	c	18	d	28	a	38		27B	
9	a	19	a	29	b	39		27C	
10	d	20	c	30	d	40		27D	



Latest Exam-Oriented Multiple Choice Questions

MOST IMPORTANT?



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1. Income approach refers to Valuation technique that converts future amount to

- a) Future Single Amount.**
- b) Current Single Amount.**
- c) Current Cumulative Amount.**
- d) Future Cumulative Amount.**

2. Fair Value means

- a) Entry Price.**
- b) Exit Price.**
- c) Market Price.**
- d) Reasonable Price.**

3. Transaction Price is

- a) Entry Price.**
- b) Exit Price.**
- c) Price entered for every transaction.**
- d) Exchange Price.**

4. Which among the following is ignored while measuring fair value

- a) DLOM.**
- b) Exit Price.**
- c) DLOC.**
- d) Transport cost.**

5. For Derivative Transaction the units of accounts (UOA) is:

- a) The Price.**
- b) The Contract.**
- c) The Transaction Value.**
- d) The Fair Value.**

6. Following are the markets available for the financial assets **except;**

- a) Principal to Principal Market.**
- b) Dealers Market.**
- c) Wholesale Market.**
- d) Exchange Market.**

7. Ideally a Valuation report should include minimum relevant methods

a) 2

b) 1

c) 3

d) 4

8. The term which is monetary, material or assessed work of an Asset, Goods or Services

- a) Value.**
- b) Fair Value.**
- c) Fair Market Value.**
- d) Market Value.**

9. Fair Value of a liability reflects the effects of

- a) Credit Risk.**
- b) Default Risk.**
- c) Non-performance Risk.**
- d) Inflation Risk.**

10. Fair Value hierarchy input price refers to the prices in

- a) Active Market.**
- b) Principal Market.**
- c) Most Advantageous Market.**
- d) Stock Market.**

11. Analytical Process of determining the currency or projected worth of an asset or an entity is

- a) Estimation.**
- b) Forecasting.**
- c) Valuation.**
- d) Intrinsic Value.**

12. Which approval is more appropriate for a sanity check

- a) Income Approach.**
- b) Cost Approach.**
- c) Market Approach.**
- d) All of the above.**

13. Terminal Value is often known as

- a) Scrap Value.**
- b) Net Realisable Value.**
- c) Continuing Value.**
- d) Liquidation Value.**

14. Terminal Value is calculated using the following models; except

- a) H Model**
- b) Fair Value Model**
- c) Exit Model**
- d) GGM**

15. Which approach uses less number of assumptions compared to others

- a) Cost Approach.**
- b) Market Approach.**
- c) Income Approach.**
- d) All of the above.**

16. Which is the most widely used approach in the business valuation

- a) Income Approach.**
- b) Cost Approach.**
- c) Market Approach.**
- d) Relative Valuation.**

17. The Cost of Capital is determined by the weighted average at _____ of the cost of all financing sources.

- a) Cost.**
- b) Fair Value.**
- c) Market Value.**
- d) Fair Market Value.**

18. Operating leverage is ratio

- a) Operating Cost to Debt.**
- b) Fixed Cost to Variable Cost.**
- c) Fixed cost to Operating Cost.**
- d) Operating Cost to Operating Profit.**

19. Capital Asset Pricing Model, Fema, French Model, Build up Model & Arbitrage Pricing Models are used to determine

- a) Cost of Capital.**
- b) Cost of Equity.**
- c) Discount Rate.**
- d) Net Present Value.**

20. The method which assumes all of the assets, both tangible & intangible are indistinguishable parts of business

- a) DCF Method.**
- b) Replacement Cost Method.**
- c) Summation Method.**
- d) Capitalisation Cash Flow Method.**

21. Fiscal policy deals with the Taxation & Expenditure decisions of

- a) Finance Ministry.**
- b) Central Government.**
- c) Central & State Government.**
- d) RBI.**

22. Monetary Policy deals with the supply of money in the economy and

- a) Inflation.**
- b) Lending policy of Bank.**
- c) Taxation.**
- d) Rate of Interest.**

23. Swedish Budget is

- a) Fully Balanced Compensatory Budget.**
- b) Cyclical Balanced Budget.**
- c) Budget of Sweden.**
- d) Live Annual Budget.**

24. Practically, Balanced Budget are

- a) Expansionary**
- b) Neutral**
- c) Contractionary**
- d) Cyclical**

25. Fully Managed Compensatory Budget is based on the principle

- a) Cyclical.**
- b) Functional Finance.**
- c) Expansionary.**
- d) Full Employment with Inflation.**

26. Most significant anti-depression device

- a) Public Expenditure.**
- b) Taxation.**
- c) Public debt.**
- d) Public works.**

27. Capital Expenditures are expenditures

- a) On Public Expenditure.**
- b) On Public Work.**
- c) On Public Debt.**
- d) On Transfer Payment.**

28. Which among the following is a sound Fiscal weapon to fight against both Inflation & Deflation

- a) Public Expenditure.**
- b) Public Debt.**
- c) Public Work.**
- d) Taxation.**

29. Deficit financing denotes

- a) Printing of Money.**
- b) Funding by borrowing from Bank.**
- c) Funding the deficit in Budget.**
- d) Financing the Government issue of Bond.**

30. Objective of Fiscal Policy includes to promote necessary development in _____ through Fiscal incentive

- a) Public Sector.**
- b) Private Sector.**
- c) Economy.**
- d) Public Works.**

31. Fractional Employment is

- a) To be avoided.**
- b) To be maximized.**
- c) Beneficial.**
- d) Non-beneficial.**

32. Full employment at which demand for labour equals supply of labour is called

- a) Natural rate of Full employment.**
- b) Natural rate of unemployment.**
- c) Artificial rate of Full employment.**
- d) Artificial rate of unemployment.**

33. The MSF Rate and Reverse Repo Rate determine the _____ for daily movement rate

- a) Bank Rate.**
- b) Corridor.**
- c) CRR.**
- d) SLR.**

34. Which method in which a fixed Sum is invested on a regular basis irrespective of market trends

- a) Equal Investment method.**
- b) Cost Averaging Investment.**
- c) Portfolio Investment.**
- d) Fixed Interval Investment.**

35. Current Risk Free Rate (R_f) is

- a) 7%
- b) 7.11%
- c) 7.22%
- d) 7.33%

36. Current Beta (β) in India for Equity Market Premium is

- a) 4%**
- b) 1.5%**
- c) 5.5%**
- d) 5%**

37. Which among the following reflects the Overall Performance & Effectiveness of the Enterprises

- a) Liquidity Ratio.**
- b) Leverage Ratio.**
- c) Activity Ratio.**
- d) Profitability Ratio.**

38. Cash Ratio is

- a) Cash $\div$ Current Liabilities.**
- b) Cash $\div$ Current Assets.**
- c) Cash $\div$ Total Assets.**
- d) Cash $\div$ Total Turnover.**

39. Financial Leverage is also known as

- a) Interval Measure.**
- b) Trading on Equity.**
- c) Operating Efficiency.**
- d) Fund Invested in Assets.**

40. Porter's Five force Model is often used as a model for describing

- a) Economy.**
- b) Industry.**
- c) Business.**
- d) Division of Company.**

41. Porter identified how many generic Corporate Strategies

- a) 3**
- b) 5**
- c) 2**
- d) 8**

42. Purchasing Power Risk is

- a) Inflation Risk.**
- b) Credit Risk.**
- c) Performance Risk.**
- d) Interest Risk.**

43. Which Bond protects from Inflation?

- a) Floating Rate Bonds.**
- b) Inflation Indexed Bonds.**
- c) Capital Indexed Bonds.**
- d) Callable Bonds.**

44. Present Rate of SLR is:

- a) 15%**
- b) 20%**
- c) 25%**
- d) 18%**

Current Rate

- New Policy Rates by RBI in Indian Banking (as on December 07, 2022): SLR Rate : **18.00%**
- The India 1 Year Government Bond has a **6.745%** yield (last update 30 Dec 2022 15:15 GMT+0).

45. Convertible note is an instrument issued by

- a) RBI on behalf of Government**
- b) Foreign Depository**
- c) Startup Company**
- d) Listed Indian Company**

46. Which among the following intangible assets are recognised as residual value in business combinations?

- a) Patent**
- b) Goodwill**
- c) Brand**
- d) Logo**

47. Premium Profit Method is used for Valuation of

- a) Startup Companies**
- b) Intangible Assets**
- c) Closely held Private Company**
- d) Cyclical Companies**

48. Agreed value is a of the insured property agreed by the Insured.

- a) Fair Value**
- b) Fair Market Value**
- c) Mutual Value**
- d) Saleable Value**

49. Discount for Lack of Liquidity (DLOL) adjustment is made for the Valuations of

- a) Startup Companies**
- b) SMEs**
- c) Insurance Valuation**
- d) Intangible Assets**

50. Market Capitalization in connection with SMEs is

- a) Cost Approach.**
- b) Market Approach.**
- c) Income Approach.**
- d) NOTA**

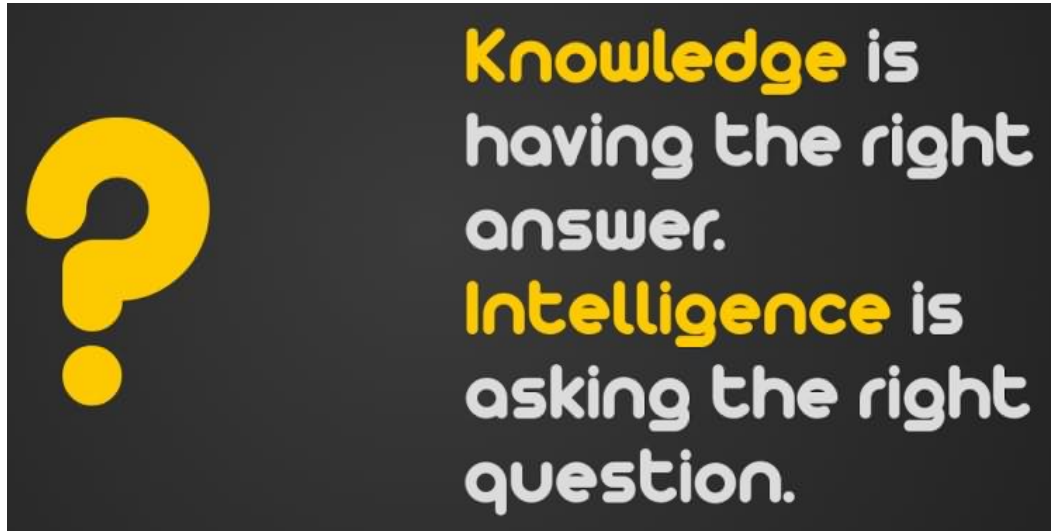
Pointers

- The **Discount for Lack of Liquidity (DLOL)** refers to an amount or percentage deducted from the value of an ownership interest to reflect the relative absence of liquidity of the asset being considered in a transaction. With equity in a private business, liquidation costs as a percent of firm value can be substantial. Consequently, the value of equity in a private business may need to be discounted for this potential illiquidity.
- **Agreed Value clause:** At the beginning of the policy period, the insured and the insurer agree upon an amount that the insurer will pay out in case there is a coverage claim. The agreed value is based on the saleable value of the insured property. Note that the saleable value and replacement cost are not the same.

The discounted cash flow model of valuation is the most helpful tool for separating intrinsic and extrinsic values

1		11		21		31		41	
2		12		22		32		42	
3		13		23		33		43	b
4		14		24		34		44	d
5		15		25		35		45	c
6		16		26		36		46	b
7		17		27		37		47	b
8		18		28		38		48	d
9		19		29		39		49	b
10		20		30		40		50	





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