Certificate in Fixed Income Markets

Syllabus

Module 1: Foundations of Fixed Income

- Role of debt in the financial system
- Features of a bond: face value, coupon, maturity, issue price and redemption
- Debt versus equity: claims, rights and risk
- Issuers: sovereigns, sub-sovereigns, banks, corporates and supranationals
- Investors: banks, insurers, pension funds, mutual funds, FPIs, family offices and retail investors
- Primary and secondary markets
- Fixed, floating, zero-coupon and step-up coupon structures
- Secured, unsecured, senior and subordinated debt
- Bond indentures, covenants and trustees
- Sources of return and risk in fixed income

Module 2: Time Value of Money and Bond Mathematics

- Present value, future value and discounting
- Compounding conventions and effective annual rates
- Annuities and perpetuities
- Pricing a bond as the present value of cash flows
- Pricing between coupon dates
- Clean price, dirty price and accrued interest
- Day-count conventions: 30/360, Actual/365 and Actual/Actual
- Pricing zero-coupon bonds and treasury bills

- Price–yield relationship
- Premium, par and discount bonds

Module 3: Yield Measures and Return Analysis

- Coupon rate versus yield
- Current yield
- Yield to maturity and its assumptions
- Yield to call, yield to put and yield to worst
- Discount yield and money-market yield
- Bond-equivalent and annualised yields
- Reinvestment risk and realised yield
- Holding-period return
- Total return analysis
- Tax-adjusted and after-cost yields

Module 4: Term Structure and Yield Curves

- Yield curve construction
- Normal, flat, inverted and humped curves
- Spot rates and bootstrapping
- Forward rates and implied forward curves
- Par, spot and forward curve relationships
- Expectations, liquidity preference and market segmentation theories
- Benchmark yields and the Indian G-sec curve
- Yield-curve movements: shifts, twists and butterflies
- Monetary policy transmission along the curve
- Using the yield curve as an economic signal

Module 5: Interest-Rate Risk Measurement

- Sources of interest-rate risk
- Macaulay duration
- Modified duration
- Effective duration for bonds with embedded options
- PV01 and DV01
- Convexity and its estimation
- Combining duration and convexity
- Key-rate duration
- Portfolio duration
- Duration limitations in practice

Module 6: Credit Analysis and Credit Risk

- Default risk, downgrade risk and spread risk
- The four Cs and the five Cs of credit
- Financial-statement analysis for credit
- Leverage, coverage and liquidity ratios
- Cash-flow analysis and debt-service capacity
- Credit spreads and their drivers
- Probability of default, loss given default and expected loss
- Recovery rates and seniority
- Credit-rating agencies, rating scales and rating actions
- Early warning signals and credit events

Module 7: Government Securities Market

- Central government dated securities
- Treasury bills and cash management bills
- State development loans

- Floating-rate bonds and inflation-indexed bonds
- Sovereign green bonds
- Government borrowing programme and auction calendar
- Auction mechanisms: uniform and multiple price
- Primary dealers and their role
- Retail participation in government securities
- Global bond index inclusion and foreign investment in G-secs

Module 8: Corporate Bonds and Debentures

- Non-convertible debentures and bonds
- Private placement and public issue routes
- Electronic bidding platforms
- Listing and disclosure requirements
- Secured debentures and security cover
- Perpetual and subordinated bonds
- Bank bonds, infrastructure bonds and tax-free bonds
- Market-linked debentures
- Corporate bond liquidity and repo
- Online bond platforms and retail access

Module 9: Money Markets

- Purpose and structure of money markets
- Call money and notice money
- Treasury repo and tri-party repo
- TREPS and collateralised borrowing
- Certificates of deposit
- Commercial paper

- Treasury bills in liquidity management
- Liquidity adjustment facility and standing facilities
- Benchmark rates: MIBOR and overnight rates
- Money-market funds and liquid funds

Module 10: Securitisation and Structured Debt

- Principles of securitisation
- Asset-backed and mortgage-backed securities
- Pass-through certificates and pay-through structures
- Credit enhancement: overcollateralization, subordination and guarantees
- Direct assignment versus securitisation
- Prepayment risk
- Collateralised debt and loan obligations
- Covered bonds
- InvIT and REIT debt
- Lessons from structured-credit crises

Module 11: Fixed Income Derivatives

- Forward rate agreements
- Interest-rate futures
- Interest-rate swaps and overnight indexed swaps
- Valuing a plain-vanilla swap
- Swap spreads
- Bond options, caps, floors and collars
- Credit default swaps
- Hedging interest-rate exposure with derivatives
- Basis risk and hedge effectiveness

- Margining and central clearing

Module 12: Fixed Income Portfolio Management

- Investment objectives and constraints
- Passive, enhanced-index and active strategies
- Duration and yield-curve positioning
- Bullet, barbell and ladder portfolios
- Immunisation and cash-flow matching
- Liability-driven investing
- Credit and sector allocation
- Roll-down and carry strategies
- Benchmarks and performance attribution
- Debt mutual funds, target-maturity funds and debt AIFs

Module 13: Trading, Settlement and Market Infrastructure

- Over-the-counter and exchange trading
- NDS-OM and electronic trading platforms
- Request-for-quote platforms
- Clearing and settlement through CCIL
- Delivery-versus-payment and settlement cycles
- Depositories and Subsidiary General Ledger accounts
- Price discovery and market-making
- Bid–ask spreads and liquidity measures
- Trade reporting and transparency
- Operational risk in fixed income operations

Module 14: Valuation, Accounting and Taxation

- Mark-to-market practices

- Valuation of illiquid and unlisted debt
- Independent valuation agencies
- Investment classification for banks: held to maturity, available for sale, fair value through profit and loss
- Ind AS 109 classification and expected credit loss
- Amortisation of premium and discount
- Taxation of interest income
- Taxation of capital gains on bonds and debt funds
- Tax deduction at source on debt instruments
- Tax-efficient fixed income investing

Module 15: Regulatory Framework

- Role of the Reserve Bank of India in debt markets
- Role of SEBI in corporate bonds and debt products
- Role of IRDAI and PFRDA in investment norms for insurers and pension funds
- Clearing Corporation of India and market infrastructure regulation
- Foreign portfolio investment limits and routes
- Debenture trustee regulation
- Issuance and disclosure norms for debt securities
- Investment norms for mutual funds and debt schemes
- Default handling, restructuring and investor protection
- GIFT IFSC and international bond listings

Module 16: Global Markets, Sustainable Debt and Emerging Trends

- US Treasuries, Bunds, gilts and JGBs as global benchmarks
- Eurobonds, masala bonds and foreign-currency bonds
- Currency risk and hedging in cross-border fixed income
- Central bank policy, quantitative easing and tightening

- Green, social, sustainability and sustainability-linked bonds
- Greenwashing risk in labelled debt
- Private credit and direct lending
- Tokenised bonds and digital settlement
- AI and data analytics in fixed income
- Case studies in rate cycles and credit events