

Certificate in Fintech

Syllabus

1: Foundations of Fintech

- What is Fintech: Definition, evolution, scope, and key drivers
- Fintech Landscape: Key players (startups, incumbents, big tech); market size and trends (India & global)
- Fintech Inclusion: Role of fintech in unbanked/underbanked segments; Jan Dhan, Aadhaar, Mobile (JAM) trinity
- Fintech Infrastructure: UPI, NPCI, payment gateways, digital KYC, e-sign, account aggregators

2: Digital Payments & Remittances

- Payment Systems Overview: IMPS, NEFT, RTGS, UPI, NACH, BBPS
- Mobile Wallets & Cards: Prepaid, debit, credit; tokenization; NFC, QR codes
- Cross-Border Payments: Remittances; FX conversion; SWIFT vs. blockchain-based solutions
- Payment Gateways & Aggregators: Merchant onboarding; settlement cycles; MDR (Merchant Discount Rate)
- Trends in Digital Payments: CBDC (Central Bank Digital Currency); BNPL (Buy Now, Pay Later); wearable payments

3: Lending & Alternative Financing

- Digital Lending: Online loan origination; underwriting algorithms; instant disbursal
- Peer-to-Peer lending: Platforms, risk assessment, regulatory framework
- Crowdfunding: Equity, debt, reward, and donation-based crowdfunding
- Invoice Financing & Supply-Chain Finance: Factoring, reverse factoring; digital platforms
- Credit Scoring Alternatives: Social media data, psychometric testing, GST/bank statement analysis
- NBFC-P2P & NBFC-Tech: Role of NBFCs in digital lending; co-lending models

4: WealthTech & Robo Advisory

- Digital Wealth Management: Online brokerage; direct mutual fund platforms; goal-based planning
- Robo Advisors: Algorithmic portfolio construction; rebalancing; tax-loss harvesting
- AI in Wealth Management: Personalized recommendations; client risk profiling
- Digital Family Office: Technology platforms for UHNW families; portfolio aggregation
- Micro-Investing & Fractional Ownership: Round-up apps; REITs, art, and collectibles fractionalization

5: Blockchain, Crypto & Digital Assets

- Blockchain Fundamentals: Distributed ledger; consensus mechanisms (PoW, PoS); smart contracts
- Cryptocurrencies: Bitcoin, Ethereum, stablecoins; wallets and exchanges
- Tokenization: Security tokens, utility tokens; NFTs (Non-Fungible Tokens)
- DeFi (Decentralized Finance): Lending, borrowing, yield farming, DEXs (Decentralized Exchanges)
- Regulatory Landscape (India): Taxation (VDA), RBI stance, FATF guidelines, upcoming legislation
- CBDCs (Central Bank Digital Currency): Digital Rupee (e₹); global CBDC pilots; implications for banking

6: Insurtech

- Insurance Technology: Digitization of distribution, underwriting, claims, and policy administration
- Usage-based Insurance: Telematics (auto), health wearables, parametric insurance
- AI in Insurance: Chatbots for customer service; fraud detection; automated claims processing
- InsurTech Business Models: Aggregators, comparison platforms, full-stack digital insurers
- Regulatory Frameworks: IRDAI sandbox; Bima Sugam (India); data privacy

7: RegTech & Compliance Technology

- What is RegTech: Automating compliance; KYC, AML, CFT; real-time monitoring
- Key RegTech Applications: Identity verification (Aadhaar, PAN, eKYC); transaction monitoring; reporting automation
- SupTech (Supervisory Technology): Tools for regulators; automated data collection; stress testing
- Global Standards: FATF, BASEL, GDPR, DPDP Act (India)
- RegTech for Banks & Fintechs: Screening, watchlists, politically exposed persons (PEPs)

8: AI & Data Science in Finance

- AI Fundamentals: Machine learning, NLP, computer vision; supervised vs. unsupervised learning
- Applications in Finance: Fraud detection, credit scoring, algorithmic trading, customer segmentation, chatbots
- Data Science for Fintech: Big data sources (transactional, social, alternative); data lakes vs. warehouses
- Explainable AI: Model interpretability for regulatory compliance
- Ethical AI: Bias mitigation; fairness in lending; transparency

9: Cybersecurity & Digital Identity

- Cyber Threats in Fintech: Phishing, ransomware, DDoS, man-in-the-middle attacks
- Security Frameworks: Encryption (AES, RSA), multi-factor authentication (MFA), biometrics
- Digital Identity Systems: Aadhaar, eKYC, DigiLocker, federated identity, self-sovereign identity (SSI)
- Compliance & Standards: PCI DSS, ISO 27001, CERT-IN guidelines
- Incident Response & Recovery: Breach notification; disaster recovery for fintechs

10: Open Banking & API Ecosystems

- Open Banking: Concept, benefits, and global adoption (UK, EU, India)
- Account Aggregator Framework: RBI's AA model; consent-based data sharing; licensed AAs
- API Types & Standards: REST, GraphQL; standards like FDC3, Berlin Group; India's ReBIT, Sahamati

- Use Cases: Personal finance management (PFM), lending, wealth aggregation
- Risks & Governance: Data privacy; consent fatigue; third-party risk management

11: Fintech Regulations & Ethics (Inda & Global)

- Regulatory Bodies (India): RBI, SEBI, IRDAI, IFSCA, DPIIT, MeitY
- Key Regulations for Fintechs: Payment and Settlement Systems Act, IT Act, DPDP Act, RBI Fintech Guidelines
- Regulatory Sandboxes: RBI, SEBI, IRDAI, IFSCA sandboxes – framework and outcomes
- Global Regulatory Approaches: EU (PSD2, MiCA), UK (FCA sandbox), US (state-by-state), Singapore (MAS)
- Ethics in Fintech: Data privacy, algorithmic fairness, responsible lending, consumer protection

12: Fintech Business Models & Strategy

- Fintech Business Models: B2B, B2C, B2B2C; subscription, transaction fees, freemium, cross-selling
- Fintech vs. Incumbents: Collaboration (Bank-Fintech partnerships) vs. competition
- Fintech Valuation: Metrics (TPV, AUM, revenue multiples); growth vs. profitability
- Future Trends: Embedded finance, Banking-as-a-Service (BaaS), Web3 finance, green fintech