

Learning Sessions

20 One-Liners | The UPI ecosystem: architecture of India's digital payments

CAIIB - Revision - The UPI ecosystem: architecture of India's digital payments

Study more at iibf.store • YouTube: Learning Sessions • WhatsApp your course name to 8360944207 for daily updates

20 One-Liners to Remember

Quick-fire facts for last-minute revision.

- 1 UPI stands for Unified Payments Interface, an instant 24x7 real-time payment system in India.**
UPI lets users send and receive money instantly without sharing bank account details.
- 2 UPI was launched in 2016 and is operated by the National Payments Corporation of India (NPCI).**
NPCI acts as the central switch and operator that routes and settles all UPI transactions.
- 3 UPI runs on top of the Immediate Payment Service (IMPS) rails for real-time fund transfer.**
Because UPI rides on IMPS, funds are confirmed within seconds instead of a batch cycle.
- 4 A Virtual Payment Address (VPA), such as name@bank, lets users transact without sharing account number or IFSC.**
The VPA abstracts sensitive bank details behind a simple identifier for privacy and simplicity.
- 5 UPI is regulated by the Reserve Bank of India under the Payment and Settlement Systems Act, 2007.**
The RBI provides regulatory oversight while NPCI operates the day-to-day UPI switch.

Learning Sessions

20 One-Liners | The UPI ecosystem: architecture of India's digital payments

CAIIB - Revision - The UPI ecosystem: architecture of India's digital payments

-
- 6 The UPI ecosystem follows a four-party model: payer PSP, payee PSP, remitter bank, and beneficiary bank.**

Each of the four parties plays a distinct role in authenticating, routing, debiting, and crediting a transaction.

- 7 NPCI operates the central UPI switch that performs address resolution, mapping a VPA to the underlying bank account.**

Address resolution allows a simple VPA to be linked correctly to the payee's actual account.

- 8 Third-party app providers (TPAPs) must partner with a sponsor bank to connect to the UPI switch.**

Only regulated banks can connect directly to UPI, so TPAPs route transactions through a sponsor PSP bank.

- 9 UPI transactions use single-click two-factor authentication with a UPI PIN as the second factor.**

Device binding is the first authentication factor and the UPI PIN entered by the customer is the second.

- 10 In a UPI transaction, the payer PSP sends the pay request to the NPCI switch for processing.**

NPCI then resolves the VPA and instructs the remitter and beneficiary banks to debit and credit accounts.

- 11 Inter-bank settlement for UPI transactions happens through RBI systems on a deferred net basis.**

Confirmation to the customer is near-instant, but actual settlement between banks is batched and net-settled later.

Learning Sessions

20 One-Liners | The UPI ecosystem: architecture of India's digital payments

CAIIB - Revision - The UPI ecosystem: architecture of India's digital payments

12 UPI 123Pay enables UPI payments on feature phones without a smartphone or internet connection.

UPI 123Pay extends real-time payment access to feature phone users for financial inclusion.

13 UPI Lite supports small-value, offline-style payments without hitting the bank server for every transaction.

UPI Lite is designed for low-value transactions to reduce load on core banking systems.

14 UPI AutoPay enables recurring mandates for subscriptions, EMI, and other repeat payments.

AutoPay lets customers authorize standing instructions that execute automatically on due dates.

15 India Stack layers Aadhaar e-KYC identity, payment rails like UPI and IMPS, and Account Aggregator data consent.

These layers combine identity, payments, and consent-based data sharing into one interoperable ecosystem.

16 AePS, or Aadhaar-enabled Payment System, allows cash withdrawal and banking at micro-ATMs using Aadhaar authentication.

AePS extends banking access to customers using biometric Aadhaar verification instead of a card or PIN.

17 RuPay is India's domestic card payment scheme and can now be linked directly to a UPI account.

Linking RuPay credit cards to UPI lets customers pay via UPI using credit, not only bank balance.

Learning Sessions

20 One-Liners | The UPI ecosystem: architecture of India's digital payments

CAIIB - Revision - The UPI ecosystem: architecture of India's digital payments

- 18 UPI's open, standardised architecture lets fintechs build payment apps without owning banking infrastructure.**

Because the rails are shared, small players can innovate on top without needing a banking license.

- 19 A merchant can accept UPI payments using only a printed QR code, without card-swipe infrastructure.**

This low-cost acceptance model is a major reason UPI has scaled rapidly among small merchants in India.

- 20 UPI interoperability means a customer on one PSP app can pay a merchant using a different PSP app.**

Interoperability across apps and banks keeps the UPI network open, competitive, and resilient for users.

Keep Learning with Learning Sessions

iibf.store

Mock tests, video classes, one-liners & PDFs — all in one portal.

YouTube: Learning Sessions

Subscribe for free daily video classes.

WhatsApp

8360944207

Send your course name for daily updates.