Faculty of Computer Application
B.Sc. (IT) (FinTech-IT in Finance)

- **Semester– 6**
- **Subject Code: 05FN0603**
- **Subject Name: FinTech-Operations & Infrastructure**
- **Objectives:**
  1. To provide an overview of FinTech ecosystems, processes, and operational models.
  2. To study the structure and components of modern digital payment systems.
  3. To explore the core technology infrastructure used in FinTech organizations.
  4. To examine regulatory, risk, and compliance frameworks governing FinTech.
  5. To understand the role of cybersecurity and fraud detection in financial operations.
- **Prerequisites:** Basic understanding of Information Systems and Financial Services.

Unit No	Topic Covered	No of Hours Required
1	**Overview of FinTech Operations** • Structure of financial systems and services • Overview of FinTech business models and value chain • Stakeholders: banks, NBFCs, payment aggregators • FinTech process flow and service delivery	6
2	**Payment Systems and Digital Infrastructure** • Types of payment systems: RTGS, NEFT, UPI, IMPS • Digital wallets and POS systems • Settlement mechanisms and clearinghouses • NPCI, SWIFT, and international payment infrastructure	8
3	**Technology Infrastructure in FinTech** • Cloud computing in FinTech: SaaS, PaaS, IaaS • Microservices, containers, and APIs • Data centers, latency, and transaction throughput • Databases: SQL vs NoSQL for financial operations	8

4	**Compliance, Risk & Cybersecurity** • Regulatory frameworks (RBI, SEBI, GDPR, PCI-DSS) • Risk management in financial systems • KYC/AML processes and fraud detection • Cybersecurity practices and incident response	**8**

Course Outcomes:

1. Understand the operational structure of FinTech ecosystems and stakeholder roles.
2. Analyze digital payment systems, transaction processing, and infrastructure.
3. Evaluate core technologies such as cloud, APIs, and databases in FinTech platforms.
4. Interpret regulatory frameworks and risk management mechanisms.
5. Explain cybersecurity practices and fraud detection strategies in FinTech operations.

Course Outcomes – Program Outcomes Mapping Table:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	H	M							H	M	
CO2	M	H		L					M	H	
CO3	H	M	M		H				H	M	M
CO4	H	H		M		H	M		M	M	
CO5	M	H	L			M	H		M	H	L

Text Book:

The FINTECH Book by Susanne Chishti & Janos Barberis, 2020

Reference Books:

- *FinTech Innovation* by Paolo Sironi, 2019
- *The PayTech Book* by Susanne Chishti, 2018
- *Bank 4.0* by Brett King, 2020

App & Web References:

- RBI Website (https://rbi.org.in)
- NPCI Portal (https://www.npci.org.in)
- SEBI Regulations (https://www.sebi.gov.in)
- UPI & IMPS APIs Documentation
- AWS FinTech Case Studies

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Syllabus Coverage from text /reference book & web/app reference:

Unit No	Chapter Numbers / Sources
1	Chishti – Part 1; RBI Payment Guidelines
2	NPCI Docs; PayTech Book – Payments Infrastructure
3	AWS FinTech Infrastructure Docs; Sironi – Ch. 3
4	SEBI/RBI Frameworks; GDPR, PCI-DSS Documents