DSE 5: DIGITAL FINANCE

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Digital Finance DSE-5	4	3	1	0	Class XII	NA

Course Objective(s):

- To get the students acquainted with the dramatic changes in the financial sector generated by the digital revolution.

Learning Outcomes:

After studying this course the student will get the:

- Understanding of the nature of digital revolution in finance.
- Knowledge of key digital technologies and products, and state reaction to the digital revolution.
- Knowledge of FinTech, big data analytics and new financial business models.

Course Contents:

Unit 1: Digital Transformation of Finance (8 Hours)

Learning Outcomes:

By the end of the unit, students will be able to:

- Recall the major milestones in the history of financial innovation.
- Understand the process of digitization in financial services and its impact on the industry.
- Apply the concepts of FinTech to assess their potential for transforming the financial industry.
- Analyze the different types of FinTech and their specific applications in the financial industry.
- Critically evaluate the impact of different types of FinTech on traditional financial services.
- Propose innovative ideas for further advancing the digitization of financial services.

Content:

A Brief History of Financial Innovation, Digitization of Financial Services, Introduction to FinTech & Funds, FinTech Transformation, FinTech Typology, Collaboration between Financial Institutions and Start-ups. Introduction to Regulation and future of RegTech.

Crowdfunding- Role of finance in economy, the role of financial intermediaries, Types and functioning of crowdfunding markets, Differences between traditional funding models and crowdfunding markets, Informational problems in the crowdfunding model.

Unit 2: Payment Systems **(12 Hours)**

Learning Outcomes:

By the end of the unit, students will be able to:

- Recall the process of digitalization in the payment system.
- Understand the attributes that contribute to a well-functioning payment system.
- Apply understanding of electronic payment systems to assess their suitability for different transaction types.
- Assess the risks and benefits associated with new entrants and payment models for the banking system.
- Evaluate the impact of the growth of digital payments in India on financial inclusion and economic development.
- Develop comprehensive guidelines and policies for digital payments that align with the evolving financial landscape and regulatory requirements.

Content:

Digitalization of the payment system. The historical evolution of the payment system., Attributes of a well-functioning payment system., Banks as guarantors of the payment system, new entrants, and new payment models: risks for the banking system. FinTech applications in Banking & Non-Banking Financial Companies (NBFCs); Insurance; payments; Lending; Audit; and Compliance. Electronic Clearing Service (ECS), Real Time Gross Settlement (RTGS), National Electronic Funds Transfer (NEFT), Immediate Payment Service (IMPS), Unified Payments Interface (UPI), Growth of Digital Payments in India, RBI guidelines on Digital Payments.

Unit 3: Crypto Assets and Blockchains **(20 Hours)**

Learning Outcomes:

By the end of the unit, students will be able to:

- Define crypto assets, cryptocurrencies, and blockchain.
- Summarize the future prospects of cryptocurrencies as a form of currency.
- Apply knowledge of Proptech to evaluate its applications in the real estate industry.
- Evaluate the regulatory debate surrounding cryptocurrencies and blockchain.
- Compare and contrast different blockchain systems and their functioning.
- Propose innovative use cases of Internet of Things (IoT) and Augmented/Virtual Reality (AR/VR) in the financial industry to enhance customer experience and efficiency.

Content:

Introduction: Crypto an asset for trade and Crypto-currency, Problems with issuers credibility, Fin Tech & Securities Trading; Cryptocurrencies and its future as currency, blockchain as a

registration mechanism, Functioning of the block chain system. The integration of digital currency and blockchain and issuers incentive problems; Proptech: FinTech of Real Estate; Possible alternative uses of blockchain technology in the economy and difficulties in its implementation. Use of bitcoin in money laundering., The regulatory debate. Introduction of Central Bank Digital Currency (CBDC). Other Emerging Financial Technologies: Internet of things (IOT) & AR/VR applications.

Unit 4: FinTech, Big Data Analytics, and new Financial Business Models (20 Hours)

Learning Outcomes:

By the end of the unit, students will be able to:

- Recognize the characteristics and features of smart accounts and customized financial products.
- Comprehend the relationship between big data, machine learning, and improved financing decisions.
- Utilize big data and machine learning techniques to improve financing decisions.
- Analyze the risks associated with high-frequency trading and propose mitigation strategies.
- Critically evaluate the role of digital securities as a new systemic risk in the economy.
- Design innovative approaches to leverage big data and machine learning for financing decisions.

Content:

The use of data in traditional credit decisions, the combination of big data and machine learning to improve financing decisions., Smart accounts, customized financial products, risk management and fraud prevention., High frequency trading: opportunities and risks.

Digital security, Challenge of confidentiality, integrity and availability, Digital securities as a new systemic risk in the economy. Regulations on cybersecurity. Latest development in the field of Digital Finance.

Essential Readings:

1. Lynn, T., Mooney, J. G., Rosati, P., & Cummins, M. (2019). *Disrupting finance: FinTech and strategy in the 21st century*. Springer Nature.
2. Beaumont, P. H. (2019). *Digital Finance: Big Data, Start-ups, and the Future of Financial Services*. Routledge.

Additional Readings:

1. Phadke, S. (2020). *FinTech Future: The Digital DNA of Finance*. Sage Publications.
2. Maese, V. A., Avery, A. W., Naftalis, B. A., Wink, S. P., & Valdez, Y. D. (2016). *Cryptocurrency: A primer*. Banking LJ, 133, 468.

Examination scheme and mode:

Evaluation scheme and mode will be as per the guidelines notified by the University of Delhi..