

<b>Subject Code</b>	<b>Subject Name</b>	<b>Credits</b>
<b>26CS610</b>	<b>BLOCK CHAIN TECHNOLOGIES</b>	<b>4</b>

### **Course Objectives**

1. To introduce to the basic concepts of Blockchain
2. To understand the working of Blockchain
3. To look into to the evolution of Blockchain
4. To understand some of the advanced concepts of Blockchain

### **Learning Outcomes**

After the completion of the course, the graduate will be able to

1. To learn the functioning of the Block Chain Technology

### **Unit 1 - Introduction to Blockchain (12 Hrs.)**

Introduction to Blockchain – Centralized and Decentralized system – Layers of Blockchain – Blockchain Importance

### **Unit 2 - Workings of Blockchain (12 Hrs.)**

Workings of Blockchain – Foundation – Cryptography – Game Theory – Blockchain Applications – Scaling Blockchain - Blockchain Application Development

### **Unit 3 - Blockchain 1.0 (12 Hrs.)**

Blockchain 1.0: Currency - Blockchain Technology Stack – Computing Problems – Workings of Cryptocurrency – Blockchain 2.0: Contracts

### **Unit 4 - Blockchain 3.0 (12 Hrs.)**

Blockchain 3.0: Justice Applications Beyond Currency, Economics and Markets – Blockchain 3.0: Efficiency and Coordination Applications Beyond Currency Economics and Markets

### **Unit 4 - Advanced Concepts (12 Hrs.)**

Advanced Concepts: Terminology and Concepts – Currency, Token, Tokenizing – Currency Multiplicity – Demurrage Currencies – Challenges and Limitations

### **References:**

1. Singhal, Bikramaditya, Gautam Dhameja, and Priyansu Sekhar Panda. Beginning Blockchain: A Beginner's Guide to Building Blockchain Solutions. Apress, 2018.
2. Kube, Nicolas. "Daniel Drescher: Blockchain basics: a non-technical introduction in 25 steps." (2018): 3212-331.
3. Judmayer, Aljosha, et al. "Blocks and chains: introduction to bitcoin, cryptocurrencies, and their consensus mechanisms." Synthesis Lectures on Information Security, Privacy, & Trust 9.1 (2017)
4. Swan, Melanie. Blockchain: Blueprint for a new economy. " O'Reilly Media, Inc.", 2015.