

SEC: Emerging Technologies for Commerce

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credit Distribution of The Course			Eligibility Criteria	Prerequisite(s) of the Course (if any)
	Lecture	Tutorial	Practical / Practice		
Emerging Technologies for Commerce	2	0	0	10 + 2 from a recognized board in Commerce stream	Nil

LEARNING OBJECTIVES (LO)

LO-1	To create a balance between the imparting of skills, the acquisition of techniques and knowledge by creating awareness of the new technologies and its application in the business.
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Course OUTCOMES (CO)

At the end of the course, a student will be able to –

CO-1	Understand the definition and significance of the Internet of Things and the application areas of IOT.
CO-2	Understand various types of cloud computing environment as well as service models of cloud computing.
CO-3	Demonstrate awareness and a fundamental understanding of various applications of AI in business.
CO-4	Understand the fundamental knowledge about the concept of Block-Chain, Crypto-currencies and how it can be useful in various industries

Syllabus of [COSE221C]

Unit 1: Internet of Things (IOT) (7 lectures)

Importance of Emerging Technologies

Internet of Things (IOT): IOT Architecture View - Technology behind IOT - Sources and Examples of IOT - Communication Technology - Internet Connectivity - Data Acquiring and Storage - Sensor Technology - Embedded Computing Basics

Unit 2: Cloud Computing (7 lectures)

Introduction to Cloud Computing: Meaning and Concept of cloud computing; Characteristics of Cloud Computing; Advantages of Cloud Computing; Drawbacks of cloud computing

Cloud computing environment (Characteristics. Advantages and limitations of each environment have to be covered): Private Clouds; Public clouds; Hybrid clouds; Community Clouds

Service models of cloud computing: Infrastructure as a Service (IaaS); Platform as a Service

(PaaS); Software as a Service (SaaS); Other Models: Communication as a Service (CaaS); Data as a Service (DaaS); Security as a Service (SEaaS); Identity as a Service (IDaaS)

Issues related to Cloud Computing

Unit 3: Artificial Intelligence (AI) (8 lectures)

Meaning and definition of artificial intelligence - Production systems: Characteristics of production systems; Breadth first search and depth first search techniques - Heuristic search Techniques: Hill Climbing, Iterative deepening DFS, Bidirectional search - Use of AI in Business

Unit 4: Block-Chain – Crypto-currencies (8 lectures)

Introduction to Block-Chain Technology: Meaning, working of block chain, proof of work, history and evolution, advantages, disadvantages.

Overview of Application of Block chain in various industries: Finance, identity management, Health care industry, Ride-sharing and Rentals, Real Estate, Tourism industry.

Introduction to Crypto-currencies: Basics of Smart Contracts and its uses, Bitcoin- Meaning, Evolution and difference between Block-Chain and Bitcoin; Ethereum – Meaning, Difference between Ethereum and Ether, Benefits of Ethereum.

Future of Block-Chain Technology: Decentralised Applications, distributed ledgers, regulatory frameworks and application in day to day life. Central Bank Digital Currency (CBDC) and RBI.

Suggestive Readings:

- Internet of Things: Architecture and Design Principles by Raj Kamal, McGraw Hill Education (India) Private Limited. (topics covered - 1.1, 1.3, 1.4.1, 1.4.2, 1.5, 1.7, 2.3, 4.2, 5.2, 7.2, 8.2)
- CA Intermediate Course: Paper 7: Enterprise Information Systems and Strategic Management – Chapter 4: E-Commerce, M-Commerce and Emerging Technologies (Pg no. 4.66 to 4.83)
- Artificial Intelligence by Stuart J Russell and Peter Norvig (Pearson Series) (Chapter 1,2)
- Applied Artificial Intelligence: Where AI can be used in Business by Fransesco Corea (Chapter 2,3,4)
- Artificial Intelligence: Elaine Rich, Kevin Knight, Mc-GrawHill. (Chapter 1,2,3)
Gates, M. (2017). Blockchain: Ultimate guide to understanding blockchain, bitcoin, cryptocurrencies, smart contracts and the future of money. CreateSpace Independent Publishing Platform.