



# ST. XAVIER'S COLLEGE (AUTONOMOUS)

Re-accredited with 'A+' by NAAC (4<sup>th</sup> Cycle) | Affiliated to Gujarat University

## DEPARTMENT OF COMMERCE

**B.Com. BPS & General (Hons.)**

**Semester - 2**

### Skill Enhancement Course: Emerging Technologies for Commerce

#### CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credit Distribution of The Course			Eligibility Criteria	Pre-requisite(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

This course will 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.

#### Learning Outcomes

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

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

Syllabus of [CO-2650]

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

##### Importance of Emerging Technologies

##### Internet of Things (IOT)

Internet of Things - 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.