

**Semester II Syllabus
for
B.Sc. (*Internet of Things*)
B.Sc. (*Cyber Security*)
B.Sc. (*Cloud Computing*)**



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TITLE		Features of the course
Paper I	Introduction to Hardware, Software, Data & Programming Languages	Students will be able to understand the concepts of Hardware and Software which will comprise of Important Components of Hardware and Software, Basic Components of Data, Importance of Data and overview of different Programming Languages.
Paper II	System Development Life Cycle, Business Logic and Flow Charts	Students will get the complete understanding of system (software) development life cycle along with requirement gathering tools and roles of different experts required to complete SDLC life cycle.
Paper III	Introduction to E-Communication, Social Media and Importance, E-Commerce & Business, IoT, Cloud Computing and Cyber Security	We are leaving in an integrated and digital world where communication, e-commerce and social media along with advance technologies like IoT, Cloud Computing and Cyber Security plays a critical role for efficient and profitable management of any business. In this Paper students will get the background and fundamentals of how all these technologies are implemented on ground and how they are going to impact the future.
Paper IV	Introduction to Artificial Intelligence, Machine & Deep Learning, Big data, Business Intelligence and Analytics, Business Continuity Planning (BCP)	In this Paper student will get a good understanding of latest emerging technologies like Artificial Intelligence, Machine & Deep Learning, Big data, Business Intelligence and Analytics along with use cases (how implemented on ground). Concept of Business Continuity Planning will also make part of the paper.

Paper – I

- Introduction to Computer Hardware and Software
 - Types of Computers
 - Hardware components
 - Main Parts of Computer and their Usage
 - Software Components
- Introduction to Operating System
 - MS-DOS Overview & Commands
 - Introduction to Unix based Operating System's
- Basic Concept of Programs & Programming Languages
 - History of Programming Language
 - Different Programming Languages and their usages
- Introduction to Data & Information
 - Processed and Unprocessed Data
 - Importance of Data & Information
 - Data Processing Software and Tools

Paper – II

- Fundamental of Business Logic & Applications (Bespoke Developed)
- Web and Application processing software and tools
- System Development Life Cycle (SDLC)
 - What is System Development Life Cycle (SDLC)?
 - Different System Development Life Cycle (SDLC) Models and their Importance
- Fundamentals and Importance of Flowchart
 - What is a Flowchart?
 - Importance of Flowchart during SDLC.
 - Flow Chart Symbols
 - Data Flow, Workflow & Process Flow Chart
- Role of Architecture, Business Analyst, Developers, Testers & Support Engineers in SDLC

Paper – III

- Fundamentals of E-Communications (Electronic Communications)
- Introduction to Social Media Platform and their importance in IT sector
- Introduction to E-Commerce and E-Business
 - What is Business?
 - Importance of Business
 - E-Commerce & Business Production Life Cycle
 - Introduction to Supply Chain Management
- Traditional Computing & Cloud Computing
- What is Internet of Things?
 - What is M2M & M2H Communication?
- What is Security and Cyber Security?
 - Consequences of Data & Information Breach
 - Introduction to Authentication & Authorization
 - Introduction to viruses, Antivirus & and infected PCs
 - Recent Cyber Security breaches

Paper – IV

- Basic Concepts of Artificial Intelligence, Machine Learning and Deep Learning
 - Difference Between Machine Learning & Deep Learning
 - Use Cases of Artificial Intelligence and Machine Learning
- Basic Concepts of Big Data
 - Difference between Data and Big Data
 - How it works & Major Components of Big Data
 - Use cases of Big Data
- Basic Concepts of Business Intelligence & Analytics
 - Difference Between Business Intelligence & Analytics
 - Different Business Intelligence & Analytics Tools and Software
 - Use cases of Business Intelligence & Analytics
- Introduction to Business Continuity Planning