

Lesson Plan

Subject: Web Technologies (ITPC303 TH2)

Discipline: Information Technology, Academic Year : 2026-27

Semester: 5th Semester

Name of Faculty: Sri Manmath Kumar Prusty, Lecturer (Stage-II) in I.T

Subject: Web Technologies	No. of Classes per week=3	Semester From Date: 01.07.2026 to date: 05.11.2026 Total No. of Classes = 45
Week	Class Day	Theory/ Practical Topics:
1st	1st	Study about Course Introduction, Evolution of Internet & WWW
	2nd	Study about different Web Protocols (HTTP, HTTPS, FTP) and Secure Connections (SSL/TLS)
	3rd	Study about Web Programs and Development Tools.
2nd	1st	Study about Web Browser, Web Server, Dynamic IP, Static IP.
	2nd	Study about how to Set up UNIX/Linux Web Server.
	3rd	Study about User Authentication, Logging Users.
3rd	1st	Study about various Website Design Principles.
	2nd	Study how to Website Planning & Navigation Design.
	3rd	Study about basic Introduction to Web System Architecture.
4th	1st	Study about Client-Server (2-Tier) Architecture.
	2nd	Study about Client-Server Three-Tier Architecture.
	3rd	Study about different Building Blocks of Scalable Web Systems.
5th	1st	Study about Caches and Proxies in web system.
	2nd	Study about Indexes and Load Balancers in web system.
	3rd	Study about Queues and Background Processing in web system.
6th	1st	Study about different Web Application Architecture (WAA).
	2nd	Introduction to JavaScript (Client-side scripting)
	3rd	Study about JavaScript Syntax, Variables and Data Types.

Week	Class Day	Theory/ Practical Topics:
7th	1st	Study about Operators and Expressions in Java Script.
	2nd	Study about Java Script Conditional Statements (if, if-else, switch).
	3rd	Study about Loops in Java Script (for, while, do-while).
8th	1st	Study about Java Script Functions.
	2nd	Study about Arrays and String Functions in Java Script..
	3rd	Study about JavaScript Mini Programs & Revision.
9th	1st	Study about JavaScript Objects.
	2nd	Study about DOM (Document Object Model).
	3rd	Study about Forms and Form Validation.
10th	1st	Study about DHTML (HTML + CSS + JavaScript Integration)
	2nd	Study about Events and Browser Control.
	3rd	Study about AJAX (Introduction, Advantages, Limitations, XMLHttpRequest).
11th	1st	Study about XML, DTD, XML Schema, XSL & XSLT.
	2nd	Study about Introduction to Web Services (REST API Basics, JSON vs XML).
	3rd	Study about Introduction to PHP (PHP Installation and Syntax).
12th	1st	Study about Variables, Arrays and Functions.
	2nd	Study about Forms, GET and POST Methods
	3rd	Study about PHP and MySQL Connection (Connecting PHP to Database).
13th	1st	Study about Database Creation and Table Creation using SQL Commands.
	2nd	Study about CRUD Operations (Insert, Update, Delete, Select).
	3rd	Study about Queries, Alter Table, Delete Database.
14th	1st	Study about PHPMyAdmin, Common Database Bugs & Debugging
	2nd	Study about Introduction to Modern Frontend Frameworks.
	3rd	Study about React.js (Components, Virtual DOM, SPA).
15th	1st	Study about Angular (Architecture, Modules, Components).
	2nd	Study about Node.js (Runtime Environment, NPM, Express Introduction).
	3rd	Study about Bootstrap & Tailwind CSS + Course Revision (Responsive Design, Utility CSS, Complete Revision).

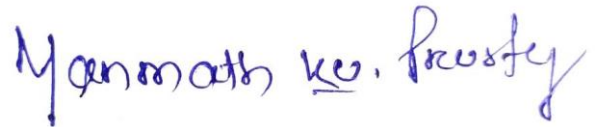
Course Outcomes:

CO-1: Describe various web development protocols, its architectures and the role of client-side and server-side scripting in dynamic web applications.

CO-2 : Develop interactive web pages using HTML, CSS, JavaScript, and PHP.

CO-3: Compare different web application architectures and evaluate their scalability and security.

CO-4: Develop a functional, database-driven web application using modern web development tools.



(Lecturer, Stage-II in IT)

Lesson Plan

Subject: Web Technologies (CEIPC 303 TH2)

Discipline: Computer Engineering & IOT, Academic Year : 2026-27

Semester: 5th Semester

Name of Faculty: Sri Manmath Kumar Prusty, Lecturer (Stage-II) in I.T

Subject: Web Technologies	No. of Classes per week=3	Semester From Date: 01.07.2026 to date: 05.11.2026 Total No. of Classes = 45
Week	Class Day	Theory/ Practical Topics:
1st	1st	Study about Course Introduction, Evolution of Internet & WWW
	2nd	Study about different Web Protocols (HTTP, HTTPS, FTP) and Secure Connections (SSL/TLS)
	3rd	Study about Web Programs and Development Tools.
2nd	1st	Study about Web Browser, Web Server, Dynamic IP, Static IP.
	2nd	Study about how to Set up UNIX/Linux Web Server.
	3rd	Study about User Authentication, Logging Users.
3rd	1st	Study about various Website Design Principles.
	2nd	Study how to Website Planning & Navigation Design.
	3rd	Study about basic Introduction to Web System Architecture.
4th	1st	Study about Client-Server (2-Tier) Architecture.
	2nd	Study about Client-Server Three-Tier Architecture.
	3rd	Study about different Building Blocks of Scalable Web Systems.
5th	1st	Study about Caches and Proxies in web system.
	2nd	Study about Indexes and Load Balancers in web system.
	3rd	Study about Queues and Background Processing in web system.
6th	1st	Study about different Web Application Architecture (WAA).
	2nd	Introduction to JavaScript (Client-side scripting)
	3rd	Study about JavaScript Syntax, Variables and Data Types.

Week	Class Day	Theory/ Practical Topics:
7th	1st	Study about Operators and Expressions in Java Script.
	2nd	Study about Java Script Conditional Statements (if, if-else, switch).
	3rd	Study about Loops in Java Script (for, while, do-while).
8th	1st	Study about Java Script Functions.
	2nd	Study about Arrays and String Functions in Java Script..
	3rd	Study about JavaScript Mini Programs & Revision.
9th	1st	Study about JavaScript Objects.
	2nd	Study about DOM (Document Object Model).
	3rd	Study about Forms and Form Validation.
10th	1st	Study about DHTML (HTML + CSS + JavaScript Integration)
	2nd	Study about Events and Browser Control.
	3rd	Study about AJAX (Introduction, Advantages, Limitations, XMLHttpRequest).
11th	1st	Study about XML, DTD, XML Schema, XSL & XSLT.
	2nd	Study about Introduction to Web Services (REST API Basics, JSON vs XML).
	3rd	Study about Introduction to PHP (PHP Installation and Syntax).
12th	1st	Study about Variables, Arrays and Functions.
	2nd	Study about Forms, GET and POST Methods
	3rd	Study about PHP and MySQL Connection (Connecting PHP to Database).
13th	1st	Study about Database Creation and Table Creation using SQL Commands.
	2nd	Study about CRUD Operations (Insert, Update, Delete, Select).
	3rd	Study about Queries, Alter Table, Delete Database.
14th	1st	Study about PHPMyAdmin, Common Database Bugs & Debugging
	2nd	Study about Introduction to Modern Frontend Frameworks.
	3rd	Study about React.js (Components, Virtual DOM, SPA).
15th	1st	Study about Angular (Architecture, Modules, Components).
	2nd	Study about Node.js (Runtime Environment, NPM, Express Introduction).
	3rd	Study about Bootstrap & Tailwind CSS + Course Revision (Responsive Design, Utility CSS, Complete Revision).

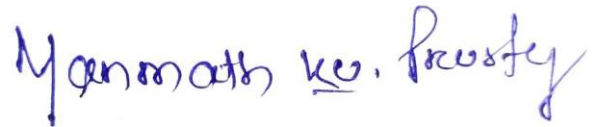
Course Outcomes:

CO-1: Describe various web development protocols, its architectures and the role of client-side and server-side scripting in dynamic web applications.

CO-2 : Develop interactive web pages using HTML, CSS, JavaScript, and PHP.

CO-3: Compare different web application architectures and evaluate their scalability and security.

CO-4: Develop a functional, database-driven web application using modern web development tools.



(Lecturer, Stage-II in IT)

Lesson Plan

Subject: Introduction to Artificial Intelligence (Th-3A)

Discipline: Modern Office Management, Academic Year : 2026-27

Semester: 5th Semester

Name of Faculty: Sri Manmath Kumar Prusty, Lecturer (Stage-II) in I.T

Subject: Introduction to AI	No. of Classes per week=3	Semester From Date: 01.07.2026 to date: 05.11.2026 Total No. of Classes = 45
Week	Class Day	Theory/ Practical Topics:
1st	1st	Study about basic course introduction, What is Artificial Intelligence?
	2nd	Study about definition, Scope and Characteristics of AI. AI vs Traditional Programming.
	3rd	Study about history and evolution of AI (AI Timeline and Milestones).
2nd	1st	Study about importance and Applications of AI.
	2nd	Study about foundations of AI (Data, Algorithms, Computing Power).
	3rd	Study about various types of AI (Narrow AI, General AI, Super AI).
3rd	1st	Study about Introduction to Machine Learning (Basic concepts and examples).
	2nd	Study about Introduction to Deep Learning (Deep Learning vs Machine Learning).
	3rd	Study about Neural Networks.
4th	1st	Study about Ethical and Societal Implications of AI (Privacy, Bias, Fairness, Responsible AI).
	2nd	Study about AI in Business Decision Making.
	3rd	Study about AI in Marketing, Sales, Finance and Operations.
5th	1st	Study about various AI Applications in Daily Life.
	2nd	Study about various AI Technologies (GPU, IoT, APIs, Advanced Algorithms).
	3rd	Study about NLP, Cognitive Computing and Computer Vision.
6th	1st	AI Case Studies & Unit-I Revision.
	2nd	Study about Introduction to Machine Learning (AI vs ML vs DL).
	3rd	Study about Machine Learning Process (Dataset, Features, Labels).
7th	1st	Study about Supervised Learning.
	2nd	Study about Unsupervised Learning.
	3rd	Study about Reinforcement Learning.
8th	1st	Study about Regression Algorithms.
	2nd	Study about different classification Algorithms.
	3rd	Study about Clustering Algorithms.
9th	1st	Study about Evaluation Metrics (Accuracy, Precision, Recall, F1 Score).
	2nd	Study about Predictive Analytics.

	3rd	Study about Customer Segmentation, Fraud Detection & Unit Revision.
10th	1st	Study about Introduction to Deep Learning along with its working principles.
	2nd	Study about Structure and learning process of Artificial Neural Networks (ANN).
	3rd	Study about Deep Learning Architecture (Hidden layers and activation functions).
11th	1st	Study about Hidden layers and activation functions.
	2nd	Study about Recurrent Neural Networks (RNN).
	3rd	Study about Image Recognition & Classification.
12th	1st	Study about Natural Language Processing (NLP).
	2nd	Study about Sentiment Analysis.
	3rd	Study about Various business applications of Deep Learning.
13th	1st	Unit-III Revision with Demonstration.
	2nd	Study about various AI Writing & Productivity Tools like ChatGPT, Google Gemini, Claude, Microsoft Copilot.
	3rd	Study about various AI Search & Research Tools like Perplexity AI, NotebookLM, Elicit, Consensus.
14th	1st	Study about different AI Image Generation Tools like DALL·E, Midjourney, Adobe Firefly, Canva AI.
	2nd	Study about different AI Presentation & Design Tools like Gamma, Tome, Canva Magic Design, Beautiful.ai
	3rd	Study about various AI Coding Assistants like GitHub Copilot, Amazon Q, Cursor AI, Replit AI.
15th	1st	Study about AI Video & Audio Tools.
	2nd	Study about different AI Data Analysis & Automation Tools like Power BI Copilot, Google AI Studio, Zapier AI, UiPath AI.
	3rd	Unit-IV Revision with Demonstration.

Course Outcomes

CO1: To explain the fundamental concepts, evolution, types, and applications of Artificial Intelligence, and evaluate its role in business, commerce, and everyday life.

CO2: To apply machine learning and deep learning concepts, algorithms, and techniques to analyse business problems such as forecasting, customer segmentation, fraud detection, and decision-making.

CO3: To demonstrate the use of AI tools and technologies, including NLP, computer vision, APIs, IoT, and commonly used AI applications, to solve practical business and commercial challenges.

Manmath K. Prusty

(Lecturer, Stage-II in IT)

Lesson Plan

Subject: Digital Electronics and Computer Organization (ITPC207 TH4)

Discipline: Information Technology, Academic Year : 2026-27

Semester: 3rd Semester

Name of Faculty: Sri Manmath Kumar Prusty, Lecturer (Stage-II) in I.T

Subject: DE & CO	No. of Classes per week=3	Semester From Date: 01.07.2026 to date: 05.11.2026 Total No. of Classes = 45
Week	Class Day	Theory/ Practical Topics:
1st	1st	Study about basic course introduction, Analog vs Digital Signals.
	2nd	Study about different Number Systems (Decimal, Binary, Octal, Hexadecimal).
	3rd	Study about Number System Conversions (Decimal↔Binary, Binary↔Octal, Binary↔Hexadecimal).
2nd	1st	Study about Binary Arithmetic Operations (addition, subtraction, multiplication etc).
	2nd	Study about basic Introduction to Boolean Algebra.
	3rd	Study about various Boolean Laws and Theorems.
3rd	1st	Study about Simplification Techniques Using Boolean Algebra.
	2nd	Unit-I Revision and Practice Problems.
	3rd	Study about Basic Logic Gates (AND, OR, NOT with truth tables).
4th	1st	Study about Universal Gates (NAND and NOR gates).
	2nd	Study about Exclusive Gates (XOR and XNOR gates).
	3rd	Study about Basic Logic Circuit Design (Boolean expression to logic circuit).
5th	1st	Study about Karnaugh Maps (K-Map) (SOP simplification (2 & 3 variables)).
	2nd	Study about K-Map Simplification (4-variable K-Maps).
	3rd	Study about Different Practical Applications of Logic Gates.
6th	1st	Study about Introduction to Combinational Circuits.
	2nd	Study about Multiplexers (MUX) and Demultiplexers (DEMUX).
	3rd	Study about Encoders and Decoders.

Week	Class Day	Theory/ Practical Topics:
7th	1st	Study about Sequential Circuits.
	2nd	Study about Flip-Flops (SR and JK Flip-Flops).
	3rd	Study about Flip-Flops (D and T Flip-Flops with timing diagrams).
8th	1st	Study about Asynchronous and synchronous counters.
	2nd	Study about Registers and Shift Registers (SISO, SIPO, PISO, PIPO, Unit Revision).
	3rd	Study about Introduction to Computer Organization.
9th	1st	Study about CPU Organization.
	2nd	Study about Memory Organization.
	3rd	Study about Advanced Memory.
10th	1st	Study about Input and Output Devices.
	2nd	Study about Instruction Cycle (Fetch, Decode and Execute cycle).
	3rd	Study about System Buses (Address Bus, Data Bus, Control Bus).
11th	1st	Study about Memory hierarchy exercises and discussion.
	2nd	Study about Introduction to Microprocessors.
	3rd	Study about Introduction to Microcontrollers.
12th	1st	Study about Arithmetic Logic Unit (ALU).
	2nd	Study about Control Unit (Hardwired and micro programmed control).
	3rd	Study about Instruction Set Architecture (ISA).
13th	1st	Study about RISC vs CISC.
	2nd	Study about Pipelining and Processor Performance.
	3rd	Study about Input/ Output Devices and Interfaces.
14th	1st	Study about Interrupts (Types, priority, interrupt handling).
	2nd	Study about Direct Memory Access (DMA).
	3rd	Study about Modern Processor Technologies.
15th	1st	Study about Embedded Systems.
	2nd	Design a simple digital circuit using logic gates (Mini Project).
	3rd	Project Demonstration, Complete Course Revision & Model Question Discussion.

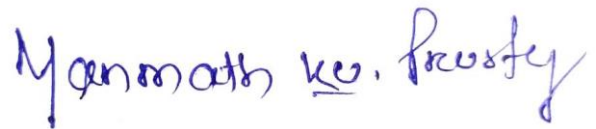
Course Outcomes:

CO-1: Describe various concepts of digital electronics, including number systems, Boolean algebra, logic gates, Flip-flops etc.

CO-2 : Implement simplified logic circuits using Karnaugh Maps and Boolean algebra to solve real-world digital design problems and design combinational and sequential circuits.

CO-3: Analyse the instruction cycle, memory organization, and processor architecture to evaluate system performance and identify bottlenecks.

CO-4: Design to simulate a basic CPU operation or create a functional digital circuit using the concepts of digital electronics and computer organization.



(Lecturer, Stage-II in IT)

Lesson Plan

Subject: Digital Electronics and Computer Organization (CEIPC207 TH4)

Discipline: Computer Engineering and IOT, Academic Year : 2026-27

Semester: 3rd Semester

Name of Faculty: Sri Manmath Kumar Prusty, Lecturer (Stage-II) in I.T

Subject: DE & CO	No. of Classes per week=3	Semester From Date: 01.07.2026 to date: 05.11.2026 Total No. of Classes = 45
Week	Class Day	Theory/ Practical Topics:
1st	1st	Study about basic course introduction, Analog vs Digital Signals.
	2nd	Study about different Number Systems (Decimal, Binary, Octal, Hexadecimal).
	3rd	Study about Number System Conversions (Decimal↔Binary, Binary↔Octal, Binary↔Hexadecimal).
2nd	1st	Study about Binary Arithmetic Operations (addition, subtraction, multiplication etc).
	2nd	Study about basic Introduction to Boolean Algebra.
	3rd	Study about various Boolean Laws and Theorems.
3rd	1st	Study about Simplification Techniques Using Boolean Algebra.
	2nd	Unit-I Revision and Practice Problems.
	3rd	Study about Basic Logic Gates (AND, OR, NOT with truth tables).
4th	1st	Study about Universal Gates (NAND and NOR gates).
	2nd	Study about Exclusive Gates (XOR and XNOR gates).
	3rd	Study about Basic Logic Circuit Design (Boolean expression to logic circuit).
5th	1st	Study about Karnaugh Maps (K-Map) (SOP simplification (2 & 3 variables)).
	2nd	Study about K-Map Simplification (4-variable K-Maps).
	3rd	Study about Different Practical Applications of Logic Gates.
6th	1st	Study about Introduction to Combinational Circuits.
	2nd	Study about Multiplexers (MUX) and Demultiplexers (DEMUX).
	3rd	Study about Encoders and Decoders.

Week	Class Day	Theory/ Practical Topics:
7th	1st	Study about Sequential Circuits.
	2nd	Study about Flip-Flops (SR and JK Flip-Flops).
	3rd	Study about Flip-Flops (D and T Flip-Flops with timing diagrams).
8th	1st	Study about Asynchronous and synchronous counters.
	2nd	Study about Registers and Shift Registers (SISO, SIPO, PISO, PIPO, Unit Revision).
	3rd	Study about Introduction to Computer Organization.
9th	1st	Study about CPU Organization.
	2nd	Study about Memory Organization.
	3rd	Study about Advanced Memory.
10th	1st	Study about Input and Output Devices.
	2nd	Study about Instruction Cycle (Fetch, Decode and Execute cycle).
	3rd	Study about System Buses (Address Bus, Data Bus, Control Bus).
11th	1st	Study about Memory hierarchy exercises and discussion.
	2nd	Study about Introduction to Microprocessors.
	3rd	Study about Introduction to Microcontrollers.
12th	1st	Study about Arithmetic Logic Unit (ALU).
	2nd	Study about Control Unit (Hardwired and micro programmed control).
	3rd	Study about Instruction Set Architecture (ISA).
13th	1st	Study about RISC vs CISC.
	2nd	Study about Pipelining and Processor Performance.
	3rd	Study about Input/ Output Devices and Interfaces.
14th	1st	Study about Interrupts (Types, priority, interrupt handling).
	2nd	Study about Direct Memory Access (DMA).
	3rd	Study about Modern Processor Technologies.
15th	1st	Study about Embedded Systems.
	2nd	Design a simple digital circuit using logic gates (Mini Project).
	3rd	Project Demonstration, Complete Course Revision & Model Question Discussion.

Course Outcomes:

CO-1: Describe various concepts of digital electronics, including number systems, Boolean algebra, logic gates, Flip-flops etc.

CO-2 : Implement simplified logic circuits using Karnaugh Maps and Boolean algebra to solve real-world digital design problems and design combinational and sequential circuits.

CO-3: Analyse the instruction cycle, memory organization, and processor architecture to evaluate system performance and identify bottlenecks.

CO-4: Design to simulate a basic CPU operation or create a functional digital circuit using the concepts of digital electronics and computer organization.



(Lecturer, Stage-II in IT)