

LESSON PLAN 2025-26(WINTER)

NAME OF THE TEACHER : DEEPAK KUMAR BARDHA, LECT.(STAGE-II,CSE)

Subject: INTERNET AND WEB TECHNOLOGY(Course Code: TH2)

Program: Diploma in Computer Science and Engineering

Semester: 5th

Total Contact Hours: 60

Total Marks: 100

Assessment: Internal Assessment – 20, End Term – 80

After completion of this course the student will be able to:

CO1-Understand the concept of Internet and its wide application in various areas.

CO2-Understand different internet connectivity and ISP.

CO3-Understand the Internet security and Applications

CO4-Know the methods of development of Portals using HTML

CO5-Know the Client side Scripting using JavaScript

CO6-Know the server side Scripting using PHP

CO7-Know the what is ASP and what can it do

Lesson	Topic	Learning Objective	Activity	Homework	COURSE OBJECTIVE
Chapter 1: Internet Basics (6 Lessons)					
Lesson 1	Computer networks	Define a computer network and identify its basic components.	Draw and have students label a simple network topology (e.g., Star or Bus).	Research and write a short paragraph explaining the difference between LAN and WAN.	CO1
Lesson 2	Concept of Internet, Intranet, Modem	Differentiate between the Internet and an Intranet and explain a modem's role.	Discuss real-world examples of Internet vs. Intranet use in companies or schools.	Find the definition and purpose of a modem and an Ethernet card.	CO1
Lesson 3	IP Address, Internet Domains	Explain what an IP address is and the purpose of an Internet domain.	Use a command prompt to find their computer's IP address and discuss its structure.	List five top-level domains (e.g., .com, .edu) and their typical uses.	CO1
Lesson 4	CIDR Notation	Interpret CIDR notation and understand its role in network addressing.	Practice converting simple CIDR notations to subnet masks and vice-versa.	Given an IP address and a subnet mask, determine the network address and broadcast address.	CO1
Lesson 5	ISP	Define an ISP and describe the services they provide.	Have students discuss and compare different ISPs, their services, and costs.	Research and write a brief report on the history of ISPs in your country or region.	CO1
Lesson 6	TCP/IP	Explain the basic functions of the TCP/IP protocol suite.	Trace the journey of a data packet from a user's computer to a web server, mentioning the protocols involved.	Create a diagram illustrating the four layers of the TCP/IP model and list the protocols in each layer.	CO1

Chapter 2: Internet Connectivity & WWW (9 Lessons)					
Lesson 7	Introduction to connectivity	Understand the different ways to connect to the internet.	List different types of connectivity methods and discuss their pros and cons.	Research and write about the future of internet connectivity, such as 5G and satellite internet.	CO2
Lesson 8	Medium and methods of connectivity (ISDN, VSAT, RF Link)	Describe the specific connectivity methods of ISDN, VSAT, and RF Link.	Discuss scenarios where each of these methods would be most suitable.	Compare the data transfer speeds and costs of ISDN and RF Links.	CO2
Lesson 9	Working of the Internet	Gain a basic understanding of how the Internet functions as a global network.	Follow the path of a URL request from a web browser to a server and back.	Write a short essay explaining how data is routed across the Internet.	CO2
Lesson 10	Introduction to WWW, Application Level Protocol	Explain the purpose of the WWW and the role of application-level protocols.	Identify different application-level protocols used in daily internet activities (e.g., HTTP, FTP).	Research and write about a less common application-level protocol, such as SMTP or POP3.	CO2
Lesson 11	Web Browser, URL	Identify the main components of a web browser and the structure of a URL.	Break down a complex URL into its components (protocol, subdomain, domain, TLD, path).	Research the history of web browsers and create a timeline of major releases.	CO2
Lesson 12	Hypertext, Hyperlinks, Hypermedia	Define hypertext, hyperlinks, and hypermedia and provide examples of each.	Analyze a simple webpage and identify examples of hypertext and hyperlinks.	Design a simple concept for a "hypermedia" project that includes text, images, and video.	CO2
Lesson 13	Search Engine, Proxy server	Understand how search engines and proxy servers work.	Discuss the pros and cons of using a proxy server.	Research and write about the different components of a search engine, such as the crawler and indexer.	CO2
Lesson 14	CGI, URI	Explain the purpose of CGI and the difference between a URI and a URL.	Discuss a scenario where a CGI script would be used on a website.	Find three examples of URIs that are not URLs (e.g., mailto:).	CO2
Lesson 15	Dreamweaver	Be introduced to Dreamweaver as a web development tool.	A brief demonstration of Dreamweaver's interface and basic features.	Research other popular WYSIWYG editors and compare them to Dreamweaver.	CO2
Chapter 3: Internet Security (6 Lessons)					
Lesson 16	Introduction to security	Identify common internet security threats.	Brainstorm a list of security risks they have heard of, such as phishing or viruses.	Find and define five different types of malware.	CO3
Lesson 17	Types of security: Authentication & Authorization	Differentiate between authentication and authorization.	Discuss real-world examples of authentication and authorization (e.g., logging into an email account vs. having access to specific files).	Write a short paragraph explaining why both authentication and authorization are necessary for secure systems.	CO3
Lesson 18	Firewalls (Part 1)	Understand the basic concept and purpose of a firewall.	Discuss how a firewall acts as a filter for network traffic.	Research and write about the difference between a software and a hardware firewall.	CO3

INTERNET AND WEB TECHNOLOGY

Lesson 19	Firewalls (Part 2)	Describe different types of firewalls, such as packet-filtering and proxy firewalls.	Compare and contrast the different types of firewalls.	Design a simple firewall rule to block a specific type of network traffic.	CO3
Lesson 20	Encryption & Decryption	Explain the basic concepts of encryption and decryption.	Use a simple substitution cipher to encrypt and decrypt a message.	Research and write about the difference between symmetric and asymmetric encryption.	CO3
Lesson 21	SSL	Explain what SSL is and why it's important for secure websites.	Have students identify the lock icon and https in their browser and explain what it means.	Write a brief report on the history of SSL and its replacement, TLS.	CO3
Chapter 4: Internet Application (6 Lessons)					
Lesson 22	E-Mail and Email protocols	Understand the purpose of email and the protocols that govern it.	List the steps a user takes to send an email and identify the protocols involved at each step.	Research and compare the features of a few popular email clients.	CO3
Lesson 23	Telnet and FTP	Define Telnet and FTP and understand their basic functionalities.	Discuss the difference between Telnet and SSH.	Write about a real-world scenario where a developer would use FTP.	CO3
Lesson 24	Newsgroup, Chatroom	Understand the historical and modern use of newsgroups and chatrooms.	Compare the structure and purpose of a newsgroup to a modern online forum.	Find an example of a Usenet newsgroup and report on the topics discussed.	CO3
Lesson 25	Internet Relay Chat	Understand the basic concepts of IRC.	Explain how IRC works and discuss its continued relevance today.	Research the history of IRC and how it influenced modern chat applications.	CO3
Lesson 26	Video Conferencing	Explain how video conferencing works.	Discuss the components required for a video conference and compare different platforms (e.g., Zoom, Google Meet).	Write a short report on the impact of video conferencing on remote work.	CO3
Lesson 27	E-Commerce	Understand the concept of e-commerce.	Brainstorm and list different types of e-commerce models (B2B, B2C, C2C).	Analyze a popular e-commerce website and identify its key features.	CO3
Chapter 5: Website Classifications (3 Lessons)					
Lesson 28	Static Websites, Dynamic websites	Distinguish between static and dynamic websites.	Provide examples of static and dynamic websites and have students explain their classification.	Write a paragraph explaining the benefits and drawbacks of each type of website.	CO4
Lesson 29	Web portals, Social Networking Sites	Define web portals and social networking sites.	Compare a web portal (e.g., a university portal) to a social networking site (e.g., Facebook).	Research and write about the key features that define a web portal.	CO4
Lesson 30	RSS Feed, Blog, Netiquette	Explain the purpose of RSS feeds, blogs, and the concept of netiquette.	Discuss the importance of online etiquette.	Find and subscribe to a blog or RSS feed and write a summary of a recent post.	CO4
Chapter 6: Development of Portals Using HTML (9 Lessons)					
Lesson 31	Design a webpage, Good Web Design	Understand the principles of good web design.	Analyze two websites (one with good design, one with bad design) and discuss the differences.	Sketch a wireframe for a simple personal webpage.	CO4
Lesson 32	HTML Introduction	Explain the role of HTML and its basic structure.	Write a basic "Hello World" HTML document.	Read about the history of HTML and the evolution of its versions.	CO4

Lesson 33	HTML Tags, Anchor Tag	Use basic HTML tags and the anchor tag for hyperlinks.	Create a simple HTML document with headings, paragraphs, and a hyperlink.	Create a list of ten common HTML tags and describe their function.	CO4
Lesson 34	Table Tag	Create an HTML table to display data.	Create a simple HTML table to display a class schedule.	Create a more complex HTML table with row and column spanning.	CO4
Lesson 35	HTML Frames	Understand the concept of HTML frames.	Discuss the pros and cons of using HTML frames.	Research why HTML frames are now deprecated and what modern techniques have replaced them.	CO4
Lesson 36	HTML Forms	Create a basic HTML form with different input types.	Design a simple contact form with fields for name, email, and a message.	Create a form with a variety of input types, including radio buttons and checkboxes.	CO4
Lesson 37	Disadvantages of HTML	Identify the limitations of using only HTML for web development.	Discuss the problems that arise when trying to style a webpage with only HTML.	Write a summary of why CSS was created to address HTML's shortcomings.	CO4
Lesson 38	Separating style from structure with style sheets, CSS Rules	Explain the concept of separating content from style using CSS.	Apply a simple inline CSS style to an HTML element.	Write an external CSS file to style a previously created HTML page.	CO4
Lesson 39	Types of CSS	Describe the three main types of CSS (inline, internal, external) and when to use each.	Refactor a simple webpage to use all three types of CSS.	Explain the benefits of using an external CSS file for a large website.	CO4
Chapter 7: Client-side Scripting with JavaScript (6 Lessons)					
Lesson 40	Introduction to script, Client-side Scripting, Types of Scripting	Define client-side scripting and its role in creating interactive web pages.	Discuss how scripting adds interactivity to a web page (e.g., form validation, dynamic content).	Research and list other client-side scripting languages besides JavaScript.	CO5
Lesson 41	Variables in JavaScript, Built-in Function	Declare variables and use simple built-in JavaScript functions.	Write a short script that declares a variable, assigns a value, and prints it to the console.	Find and describe five built-in JavaScript functions.	CO5
Lesson 42	Arrays in JavaScript	Create and manipulate JavaScript arrays.	Write a script that creates an array of fruits and adds a new fruit to it.	Write a script that sorts an array of numbers in ascending order.	CO5
Lesson 43	Conditional statements, Loops	Use if/else statements and for loops in JavaScript.	Write a script that checks if a number is even or odd, and another that prints numbers from 1 to 10.	Write a script that iterates through an array and prints each element to the console.	CO5
Lesson 44	Document Object Model (DOM)	Explain what the DOM is and how to access HTML elements with JavaScript.	Use document.getElementById() to select an element and change its text content.	Write a script that changes the background color of a page when a button is clicked.	CO5
Lesson 45	Creating Functions, objects in JavaScript	Create and call their own functions and define simple JavaScript objects.	Create a function that takes two numbers and returns their sum.	Create an object for a Person with properties like name and age.	CO5

Lesson 46	Event handling in JavaScript, Embedding JavaScript with HTML	Handle events like click and embed JavaScript in HTML.	Create a simple button that displays an alert message when clicked.	Write a script that validates a form field on the submit event.	CO5
Chapter 8: Server-Side Scripting (5 Lessons)					
Lesson 47	Introduction to Server-side Scripting (SSS)	Define server-side scripting and its purpose.	Discuss the difference between client-side and server-side scripting.	List five programming languages used for server-side scripting.	CO6
Lesson 48	Components of SSS	Identify the key components of a server-side scripting environment (e.g., web server, database).	Draw a diagram illustrating the flow of a request from a browser to a server, processed by a server-side script, and a response sent back.	Research and write about the role of a web server in server-side scripting.	CO6
Lesson 49	Difference between CSS and SSS	Clearly differentiate between client-side and server-side scripting.	Create a table listing the pros and cons of each scripting type.	Find two different tasks a website performs and explain which type of scripting would be used for each and why.	CO6
Lesson 50	Server-side Scripting method, JavaScript on server	Understand how JavaScript can be used on the server-side.	Introduce the concept of Node.js and its event-driven architecture.	Research the advantages of using a single language (JavaScript) for both the client and server side.	CO6
Lesson 51	SQL	Explain the purpose of SQL and write simple queries.	Write a simple SELECT statement to retrieve data from a hypothetical database table.	Create a simple database table schema and write a query to insert a new record into it.	CO6
Chapter 9: Server-Side Programming using PHP (10 Lessons)					
Lesson 52	Introduction to PHP	Explain the purpose of PHP.	Write a simple PHP script to print "Hello, World!" on a webpage.	Research and write about the history of PHP.	CO7
Lesson 53	Variables	Declare and use variables in PHP.	Create a PHP script that declares a few variables of different data types and displays their values.	Write a PHP script that calculates the area of a rectangle using two variables.	CO7
Lesson 54	String, operator types	Manipulate strings and use different operator types in PHP.	Use string concatenation to combine a first and last name.	Write a script that uses a conditional operator to check if a number is greater than 10.	CO7
Lesson 55	Conditional statement	Use if/else and switch statements in PHP.	Write a script that checks if a student has passed an exam based on their score.	Write a script that uses a switch statement to display the name of the day of the week based on a number (1-7).	CO7
Lesson 56	Loops	Use for, while, and foreach loops in PHP.	Write a for loop to print numbers from 1 to 5.	Use a while loop to print even numbers from 2 to 20.	CO7
Lesson 57	Array (Part 1)	Create and access indexed arrays in PHP.	Create an indexed array of colors and display the third element.	Write a script that iterates through an indexed array using a for loop and prints each element.	CO7

Lesson 58	Array (Part 2)	Work with associative arrays in PHP.	Create an associative array to store a person's name, age, and city, and display the values.	Write a script that uses a foreach loop to iterate through an associative array and print both the key and value.	CO7
Lesson 59	GET and POST Method	Explain the difference between the GET and POST methods for form submission.	Discuss scenarios where each method would be appropriate.	Create a simple HTML form and a PHP script to process the data using the POST method.	CO7
Lesson 60	Introduction to Database, PHP and MySQL	Students will be able to explain the relationship between PHP and MySQL.	Briefly demonstrate connecting a PHP script to a MySQL database.	Research and write about a popular PHP framework (e.g., Laravel or Symfony) that simplifies database interaction.	CO7

Deepak Kumar Barch
11.07.2025
Signature of Teacher

Deepak Kumar Barch
11.07.2025
Signature of HOD

Lesson 52	Introduction to PHP	Explain the purpose of PHP	Write a simple PHP script to print "Hello, World!" on a webpage.	Research and write about the history of PHP	CO7
Lesson 53	Variables	Declare and use variables in PHP	Declare a few variables of different data types and display their values.	Write a PHP script that calculates the area of a rectangle using two variables.	CO7
Lesson 54	String, operator types	Manipulate strings and use different operator types in PHP	Use string concatenation to combine a first and last name.	Write a script that uses a conditional operator to check if a number is greater than 10.	CO7
Lesson 55	Conditional statement	Use if/else and switch statements in PHP	Write a script that checks if a student has passed an exam based on their score.	Write a script that uses a switch statement to display the name of the day of the week based on a number (1-7).	CO7
Lesson 56	Loops	Use for, while, and foreach loops in PHP	Write a for loop to print numbers from 1 to 5.	Use a while loop to print even numbers from 2 to 20.	CO7
Lesson 57	Array (Part 1)	Create and access indexed arrays in PHP	Create an indexed array of colors and display the third element.	Write a script that iterates through an indexed array using a for loop and prints each element.	CO7

Chapter 3: Server-Side Programming using PHP (10 Lessons)