Maharashtra State Board of Technical Education, Mumbai
Laboratory Plan (LP-PR)/ Course Information Sheet (CIS)

K-2

Academic Year: 2025-26 **Date:** 15/12/2025
Institute Name: K. K. Wagh Polytechnic, Nashik **Institute Code:** 0078
Program and Code: Computer Technology (CM) **Course Code &. Abbr.:** 316005 (CSS)
Course Name: Client Side Scripting (CSS) **Course Index:** CI403 **Learning Hrs:** 30
Class: TYCM-WIN **Semester:** 6th **Scheme:** K **Name of Faculty:** Ms. S.K.Mahajan

• Teaching-Learning & Assessment Scheme:

Course Title	Course Code / Abbr	Course Category	Learning Scheme					Credits	TH Paper Duration (Hrs.)	Assessment Scheme											
			Actual Contact Hrs/ Week			SLH	NLH			Theory				Based on LL & TSL Practical				Based on SL		Total Marks
			CL	TL	LL					FA TH	SA TH	Total		FA-PR		SA-PR		SLA		
										Max	Max	Max	Min	Max	Min	Max	Min	Max	Min	
Client Side Scripting	CSS 316005	AEC	2	-	4	-	6	3		-	-	-	-	25	10	25 @	10	-	-	50

Abbreviations: CL- Class Room Learning, TL- Tutorial Learning, LL-Laboratory Learning, SLH-Self Learning Hours, NLH-Notional Learning Hours, FA - Formative Assessment, SA -Summative assessment, IKS – Indian Knowledge System, SLA - Self Learning Assessment
Legends: @ Internal Assessment, # External Assessment, *# On Line Examination, @$ Internal Online Examination

• Course Outcomes (COs): Theory & Practical:

By learning course of Client Side Scripting (CSS-316005), the Third Year students will be able to

CO No.	Course Outcomes (COs) / Unit Outcomes (UOs)
CO604.1(CO1)	Fundamental of Client Side Scripting
CO604.2(CO2)	Angular Basics
CO604.3(CO3)	Working with AngularJS
CO604.4(CO4)	Introduction of React Framework
CO604.5(CO5)	Working with React Framework

• COs, Practical Laboratory Learning Outcome (LLOs) and Mapping:

Pr. No	COs	LLO	Practical -Laboratory Learning Outcome (LLO)
PR 1	CO1	LLO1.1	Create web page using structure tags to display sample message.
PR 2	CO1	LLO2.1	Create Python script to display sample message.
PR 3	CO1	LLO3.1	Write programs a JSON Object with properties and access the object using JSON.
PR 4	CO2	LLO4.1	Install Angular software application.
PR 5	CO2	LLO5.1	Use forms controls.
PR 6	CO2	LLO6.1	Implement data binding in AngularJS.
PR 7	CO2	LLO7.1	Implement data binding synchronization between the model and the view.
PR 8	CO2	LLO8.1	Use filters in AngularJS.
PR 9	CO2	LLO9.1	Implement various keys and mouse events.
PR 10	CO3	LLO10.1	Create a web page to implement table.
PR 11	CO3	LLO11.1	Implement table operation using filters.
PR 12	CO3	LLO12.1	Develop Angular JS applications using controllers.
PR 13	CO3	LLO13.1	Use concept of controllers external files.
PR 14	CO4	LLO14.1	Execute after writing program to handle data using React form.
PR 15	CO4	LLO15.1	Execute after writing program passing function argument into React component.
PR 16	CO4	LLO16.1	Implement the concept of React life cycle.
PR 17	CO4	LLO17.1	Implement states of React Hooks.

PR 18	CO5	LLO18.1	Use React components to design real time form.
PR 19	CO5	LLO19.1	Apply validations for React form.
PR 20	CO5	LLO20.1	Use concept of List using React.
PR 21	CO5	LLO21.1	Create a page to use map function in React.
PR 22	CO5	LLO22.1	Implement different approaches for styling a React web page.
PR 23	CO2, CO3, CO4, CO5	LLO23.1	Carry out a microproject on the given problem statement.

- **Practical/Laboratory Plan**:

Sr No	LLOs	Practical Titles	Planned Dates		Remark & Faculty Sign with Date
			From	To	
1	LLO 1.1	* Write a program to display "Hello World" using: • Console.log() • document.write() • alert()	A-17/12/2025 B-15/12/2025 C-16/12/2025	A-20/12/2025 B-18/12/2025 C-19/12/2025	
2	LLO 2.1	Write a program to display "Welcome" using Python script	A-20/12/2025 B-18/12/2025 C-19/12/2025	A-24/12/2025 B-22/12/2025 C-23/12/2025	
3	LLO 3.1	Create objects for the given problem with JSON	A-24/12/2025 B-22/12/2025 C-23/12/2025	A-29/12/2025 B-26/12/2025 C-27/12/2025	
4	LLO 4.1	1. Setup Angular development environment using: • Installation of Node.js and npm • Installation of Angular CLI 2. Write a program to display "Good Morning" Message on web page	A-29/12/2025 B-26/12/2025 C-27/12/2025	A-03/01/2026 B-01/01/2026 C-02/01/2026	
5	LLO 5.1	* Write AngularJS program to design form using various controls and apply validations on input	A-29/12/2026 B-30/12/2026 C-31/12/2026	A-03/01/2026 B-01/01/2026 C-02/01/2026	
6	LLO 6.1	* Write a program to display data model view and display data for given problem	A-03/01/2026 B-01/01/2026 C-02/01/2026	A-07/01/2026 B-05/01/2026 C-06/01/2026	
7	LLO 7.1	Write a program to display two - way data binding	A-07/01/2026 B-05/01/2026 C-06/01/2026	A-10/01/2026 B-08/01/2026 C-09/01/2026	
8	LLO 8.1	* Write a program to implement different filters in AngularJS	A-10/01/2026 B-08/01/2026 C-09/01/2026	A-14/01/2026 B-12/01/2026 C-13/01/2026	
9	LLO 9.1	* Write a program to implement different events in Angular JS	A-14/01/2026 B-12/01/2026 C-13/01/2026	A-15/01/2026 B-16/01/2026 C-17/01/2026	
10	LLO 10.1	Write a program displaying data in a table	A-15/01/2026 B-16/01/2026 C-17/01/2026	A-21/01/2026 B-19/01/2026 C-20/01/2026	
11	LLO 11.1	* Write a program to implement CSS to table data-odd and even rows	A-21/01/2026 B-19/01/2026 C-20/01/2026	A-24/01/2026 B-22/01/2026 C-23/01/2026	
12	LLO 12.1	* Write programs for implementation of different methods of AngularJS Controllers	A-24/01/2026 B-22/01/2026 C-23/01/2026	A-29/01/2026 B-27/01/2026 C-28/01/2026	
13	LLO 13.1	* Write programs to demonstrate use of controllers in external files	A-29/01/2026 B-27/01/2026 C-28/01/2026	A-31/01/2026 B-29/01/2026 C-30/01/2026	
14	LLO 14.1	* Write a program to handle data using React form	A-31/01/2026 B-29/01/2026 C-30/01/2026	A-04/02/2026 B-02/02/2026 C-03/02/2026	
15	LLO 15.1	Write a program to pass function argument into React component	A-04/02/2026 B-02/02/2026 C-03/02/2026	A-07/02/2026 B-05/02/2026 C-06/02/2026	

16	LLO 16.1	* Write a program to pass function argument into React program and implement the life cycle of React	A-07/02/2026 B-05/02/2026 C-06/02/2026	A-11/02/2026 B-09/02/2026 C-10/02/2026	
17	LLO 17.1	* Write a program to implement states of React Hooks	A-11/02/2026 B-09/02/2026 C-10/02/2026	A-14/02/2026 B-12/02/2026 C-13/02/2026	
18	LLO 18.1	Write a program to design real time form using react components	A-14/02/2026 B-12/02/2026 C-13/02/2026	A-18/02/2026 B-16/02/2026 C-17/02/2026	
19	LLO 19.1	Write a program to apply validations for React form	A-18/02/2026 B-16/02/2026 C-17/02/2026	A-23/02/2026 B-20/02/2026 C-21/02/2026	
20	LLO 20.1	* Write a program to manipulate List using key and without key in React	A-23/02/2026 B-20/02/2026 C-21/02/2026	A-25/02/2026 B-23/02/2026 C-24/02/2026	
21	LLO 21.1	Write a program to render a list using map function in React	A-14/03/2026 B-12/03/2026 C-13/03/2026	A-18/03/2026 B-16/03/2026 C-17/03/2026	
22	LLO 22.1	* Write a program to apply following approaches of css to a React web page: • Inline styling • CSS stylesheets • CSS Modules	A-18/03/2026 B-16/03/2026 C-17/03/2026	A-18/03/2026 B-16/03/2026 C-17/03/2026	
23	LLO 23.1	* The microproject has to be web based real time application suggested by teacher such as: • Develop a web "Chat Application" having Chat window with send and receive the text, image etc. • Develop a web "Music Player application" where user can get the Album with singer and play the music.	A-18/03/2026 B-16/03/2026 C-17/03/2026	A-25/03/2026 B-23/03/2026 C-24/03/2026	

Note: -Out of above suggestive LLOs -'*****' Marked Practical's (LLOs) Are mandatory.
-Minimum 80% of above list of lab experiment are to be performed.
-Judicial mix of LLOs is to be performed to achieve desired outcomes.

❖ Formative & Summative Assessment Criteria:

- **Practical Assessment:**

1. Formative Assessment (FA) of each practical/experiment will be performed progressively for 50 marks. The assessment will be performed based on the Regularity in Practical Performance, Tool Selection Ability, Use of Appropriate tool to perform the Identified tasks, Algorithm/Solution developed, Quality of output achieved, Answer to sample questions and Submit report in total time.
2. Final Term Work (FA-PR) of 50 marks is calculated based on scores in Formative Assessment for all practicals/experiments as:
    - ***Term Work Marks (FA-PR)*** *= ((Sum of Total Marks Scored in FA x Max Marks by Scheme) / (Total Number of Experiments)) x (Max marks for each Practical))*
3. Self-learning Activities (SLA) includes Micro project / Assignment / other activities related to subject/course and it will be evaluated out of 25 Marks.
4. A Summative (comprehensive) Assessment (SA-PR) of Practical will be performed as End Semester Examination (ESE). The SA-PR will be for 50 Marks with MSBTE guidelines at the end of semester. The schedule of MSBTE Practical ESE will be display on Notice board prior to examination.

- **References:**

1. Suggested Books for Reference:

Sr. No	Author	Title of the Book	Publisher
1.	Thomas A. Powell	HTML & CSS: The Complete Reference	McGraw Hill Education; 5th edition (1 July 2017), ISBN-13: 978-0070701946
2.	Valeri Karpov, Diego Netto	Professional AngularJS (WROX)	Wiley (1 January 2015), ISBN-13: 978-8126556434
3.	Brad Green, Shyam Seshadri	AngularJS: Less Code, More Fun, And Enhanced Productivity With Structured Web Apps (Greyscale Indian Edition)	Shroff/O'Reilly; First Edition (1 January 2013), ISBN-13: 978-9351101260
4.	Mayur Patil	React.js For Beginners	Notion Press (11 January 2023), ISBN-13: 979-8889355106
5.	Alex Banks	Learning React: Modern Patterns for Developing React Apps	Shroff/O'Reilly; Second edition (16 July 2020), ISBN-13: 978-9385889158

2. Learning Websites URLs & Portals:

Sr. No	Website /Portal Link/URL	Description
1	https://www.tutorialspoint.com/angular/index.htm [16]	Designing web page using AngularJS. (All contents) [17]
2	https://www.w3schools.com/angular/ [18]	AngularJS Tutorial for beginners [19]
3	https://www.w3schools.com/REACT/DEFAULT.ASP [20]	React Tutorial for beginners [21]
4	https://www.tutorialspoint.com/reactjs/index.htm [22]	Designing web page using React. (All contents) [23]
5	https://javascript.info/ [24]	The Modern JavaScript Tutorial [25]
6	https://www.javascripttutorial.net/react-tutorial/ [26]	Providing React, AngularJS and Javascript contents. [27]
7	https://www.youtube.com/watch?v=NSWzs-Jt65w [28]	Angular JS for Beginners [29]

3. URLs of referred YouTube Videos:

Sr. No	URL/YouTube Link	Topic/ Description
1	https://www.youtube.com/watch?v=hdI2bqOjy3c	JavaScript Crash Course For Beginners
2	https://www.youtube.com/watch?v=lfmg-EJ8gm4	JavaScript Full Course for free
3	https://www.youtube.com/watch?v=0ik6X4DJKCc	**DOM Crash Course** (Essential Client-Side Concept)
4	https://www.youtube.com/watch?v=hBktBgdv2GE	Client-Side vs. Server-Side Scripting
5	https://www.youtube.com/watch?v=Oive66jrwBs	Async JavaScript & Fetch API

- **Tools to Use for Teaching-Learning, Assessment and Evaluation:**
- **Google Classroom –** It will be used to/for:
  - Organized Sharing of the Learning material such as PPTs, eNotes, Question Banks, Sample Solutions with students by class.
  - Conduction of the MCQ Tests and its evaluation.
  - Online sharing of Assignments and the Assessment of Assignments.
  - Monitor the students response and progress.
- **MKCL ERA LMS: –** The use of MKCL ERA LMS is/for:
  - Sharing by the Class, the Learning material such as PPTs, eNotes, Video Links by the Units
  - Sharing of Question Banks, Sample Solutions with students by class.
  - Conduct the Unit wise Quiz and perform evaluation of students.
  - Online Conduction of the Tests/Assignments and its assessment.
  - Using this detailed student's reports about his/her performance can be made available.

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