



K L Deemed to be University

Department of Computer Science and Engineering-Honors -- KLAZIZ

Course Handout

2024-2025, Even Sem

Course Title	:FULL STACK APPLICATION DEVELOPMENT
Course Code	:23SDCS12E
L-T-P-S Structure	: 0-0-6-4
Pre-requisite	:
Credits	: 4
Course Coordinator	:A SIVA KRISHNA REDDY
Team of Instructors	:
Teaching Associates	:

Syllabus :Module 1:Introduction to React and Web Development Basics Setting up a development environment - Overview of HTML, CSS - Single Page Application (SPA) - JavaScript and ES6 – React JSX: JSX Styling, JSX Using External Style Sheet – React Components: Function Component, Class Component - React State: Props and State management, Hooks - Event Handling - Node Package Manager - YARN - Adding Dependencies in package.json Module 2:Advanced React for Enterprise Web Applications Handling Forms – Client-side routing using react router-dom - React context API - Implementing state management with Redux - Performance Optimization: Memoization, Virtualization and lazy loading – Designing with Bootstrap / Material UI - Global state with Redux or Context API – Making API calls with AXIOS / Fetch. Module 3: Backend Development with Java Spring Framework - Inversion of Control (IoC) and Dependency Injection (DI) - Spring JdbcTemplate vs Hibernate - Setting up Spring Boot projects - Spring Data JPA - RESTful APIs and building basic endpoints - HTTP methods (GET, POST, PUT, DELETE) - Connecting to relational databases (PostgreSQL/MySQL/MONGO DB) - CRUD operations with Spring Data JPA – Interaction between ReactJs and Spring Boot. Module 4: Access Control and Advanced Backend Features Handling HTTP request and response: fetch and Axios - Asynchronous operations and promises - Multi Origin (Cors) - Security and Authentication: Basic Auth, OAuth2, JWT - Role-based access control (RBAC) - Building event-driven applications. Introduction to microservices architecture with Spring Boot – Load Balancing with Microservices – API Gateway Integration. Module 5: Spring Cloud and Deployment of Enterprise Web Applications Spring Cloud Integration with Full Stack Project - Measuring and analyzing web performance in real-time - Final project integration and deployment - A complex, scalable, and secure web platform with multi-user roles - Emphasis on full stack architecture, security, performance, and scalability.

Text Books :1. Designing Applications with Spring Boot 2.2 and React JS: Step-by-step guide to design and develop intuitive full stack web applications - by Dinesh Rajput - BPB Publications; 1st edition (1 January 2019). 2. Full Stack Development with Spring Boot 3 and React - by Juha Hinkula - Packt Publishing; 4th ed. edition (31 October 2023).

Reference Books : 1. Learn ReactJS with Practical Examples in 1 day: Smart, Quick and Easy Learning - ReactJS Kindle Edition - by Tech Tutions (Author) - B08SWMRD1W 2. Hands-On Microservices with Spring Boot and Spring Cloud - by Magnus Larsson - Packt Publishing (20 September 2019) 3. React Cookbook - by Carlos Santana Roldan - Packt Publishing (30 August 2018)

Web Links :1. <https://fullstackopen.com/en/>, 2. <https://nodejs.org/en/download/prebuilt-installer>, 3. <https://maven.apache.org/>, 4. <https://mvnrepository.com/> 5. <https://hibernate.org/orm/> 6.<https://docs.spring.io/springframework/docs/current/reference/html/> 7. <https://docs.spring.io/spring-boot/docs/current/reference/htmlsingle/> 8.<https://microservices.io/patterns/microservices.html> 9. <https://react.dev/> 10. <https://spring.io/projects/spring-cloud>

MOOCS :Course 01: <https://js.institute/study-resources> (two courses) Course 02: <https://www.coursera.org/learn/developing-frontend-apps-with-react> Course 03: <https://www.coursera.org/specializations/spring-framework>

Global Certifications :Spring Certified Professional - <https://spring.academy/paths/spring-certified-professional-2023> ReactJS certification - <https://fullstackopen.com/en/>

Sector Skill Council :Sector Skill Council (SSC) IT-ITeS Sector Skill Council Sub Sector Apparel - IT Services Occupation Application Development Potential Qualification Pack (QP) Name Web Developer (Version 2) QP CCode SSC/Q0503 File Link https://nsdcindia.org/sites/default/files/SSCQ0503_Web_Developer_v2_27_05_2020.pdf

COURSE OUTCOMES (COs):

CO NO	Course Outcome (CO)	PO/PSO	Blooms Taxonomy Level (BTL)
CO5	Develop robust and scalable full-stack web applications by integrating React for the frontend and Spring Boot for the backend.	PSO1,PO3,PO9	3
CO6	Implement advanced enterprise features such as state management, authentication, microservices architecture, and deployment for secure and high-performance web solutions.	PSO1,PO3,PO9	3

COURSE OUTCOME INDICATORS (COIs)::

Outcome No.	Highest BTL	COI-1	COI-2	COI-3
CO5	3	Btl-3 Demonstrate the ability to create responsive and interactive Single Page Applications (SPAs) using React components, hooks, and routing.	Btl-3 Integrate React with Spring Boot by implementing RESTful APIs for seamless front-end and back-end communication.	Btl-3 Perform CRUD operations with relational databases using Spring Data JPA and connect them to React-based user interfaces.
CO6	3	Btl-3 Utilize Redux or Context API for global state management and optimize performance with techniques like memoization and lazy loading.	Btl-3 Design and implement secure authentication mechanisms using OAuth2, JWT, and role-based access control (RBAC).	Btl-3 Build and deploy microservices-based applications with Spring Boot, leveraging Spring Cloud and API Gateway for load balancing and scalability.

PROGRAM OUTCOMES & PROGRAM SPECIFIC OUTCOMES (POs/PSOs)

Po No.	Program Outcome
PO1	Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem Analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and

	engineering sciences
PO3	Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations
PO4	Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems that cannot be solved by straightforward application of knowledge, theories and techniques applicable to the engineering discipline.
PO5	Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO6	The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice
PO9	Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions
PO11	Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.
PSO1	An ability to design and develop software projects as well as Analyze and test user requirements.
PSO2	An Ability to gain working Knowledge on emerging software tools and technologies.

Lecture Course DELIVERY Plan: NO Delivery Plan Exists

Lecture Session wise Teaching – Learning Plan

No Session Plans Exists

Tutorial Course DELIVERY Plan: NO Delivery Plan Exists

Tutorial Session wise Teaching – Learning Plan

No Session Plans Exists

Practical Course DELIVERY Plan:

Tutorial Session no	Topics	CO-Mapping
1	Implementing grid, flex and block display	CO5

Tutorial Session no	Topics	CO-Mapping
2	Development of responsive frontend for system and mobile view	CO5
3	Working with React props and state	CO5
4	Implementation of multiple components as a “Single Page React App” with Redux State Management for Routing	CO5
5	Utilizing the predefined responsive design elements with Bootstrap / Material-UI for designing	CO5
6	Transferring (Sending and Receiving) data with Axios / Fetch API and Postman in React	CO5
7	Spring Boot Web MVC demo and Annotations	CO5
8	Spring Boot with Rest API and CRUD Operations	CO6
9	Spring Boot with ReactJS Integration	CO6
10	Implementing Authentication and Role Based Access	CO6
11	Implementing JWT Tokens with encryption and decryption	CO6
12	Implementing Microservices and Load Balancing	CO6
13	Implementing Spring Cloud Integration	CO6
14	Hosting backend (spring boot)	CO6
15	Hosting frontend (ReactJS)	CO6

Practical Session wise Teaching – Learning Plan

SESSION NUMBER : 1

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
60	Implementing grid, flex and block display	1	Chalk	Group Discussion

SESSION NUMBER : 2

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
60	Development of responsive frontend for system and mobile view	3	Talk	Group Discussion
50	Development of responsive frontend for system and mobile view	3	Talk	One minute paper

SESSION NUMBER : 3

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
60	Working with React props and state	3	Chalk	Group Discussion
60	Working with React props and state	3	Talk	Group Discussion

SESSION NUMBER : 4

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementation of multiple components as a “Single Page React App” with Redux State Management for Routing	3	Talk	One minute paper
50	Implementation of multiple components as a “Single Page React App” with Redux State Management for Routing	3	PPT	Seminars

SESSION NUMBER : 5

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
45	Utilizing the predefined responsive design elements with Bootstrap / Material-UI for designing	3	PPT	Group Discussion
50	Utilizing the predefined responsive design elements with Bootstrap / Material-UI for designing	3	PPT	Group Discussion

SESSION NUMBER : 6

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning	Active Learning

			Methods	Methods
50	Transferring (Sending and Receiving) data with Axios / Fetch API and Postman in React	3	PPT	Seminars
50	Transferring (Sending and Receiving) data with Axios / Fetch API and Postman in React	3	Talk	Seminars

SESSION NUMBER : 7**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Spring Boot Web MVC demo and Annotations	4	PPT	Group Discussion
50	Spring Boot Web MVC demo and Annotations	3	PPT	Group Discussion

SESSION NUMBER : 8**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Spring Boot with Rest API and CRUD Operations	3	Talk	Group Discussion
50	Spring Boot with Rest API and CRUD Operations	3	Talk	One minute paper

SESSION NUMBER : 9**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Spring Boot with ReactJS Integration	3	Talk	One minute paper
50	Spring Boot with ReactJS Integration	3	Talk	One minute paper

SESSION NUMBER : 10**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing Authentication and Role Based Access	3	Talk	One minute paper

50	Implementing Authentication and Role Based Access	1	Talk	One minute paper
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SESSION NUMBER : 11**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing JWT Tokens with encryption and decryption	3	PPT	Group Discussion
50	Implementing JWT Tokens with encryption and decryption	3	PPT	One minute paper

SESSION NUMBER : 12**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing Microservices and Load Balancing	3	Talk	One minute paper
50	Implementing Microservices and Load Balancing	3	Talk	One minute paper

SESSION NUMBER : 13**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing Spring Cloud Integration	3	Talk	One minute paper
50	Implementing Spring Cloud Integration	3	Talk	One minute paper

SESSION NUMBER : 14**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Hosting backend (spring boot)	3	Talk	--- NOT APPLICABLE ---

45	Hosting backend (spring boot)	3	PPT	--- NOT APPLICABLE ---
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SESSION NUMBER : 15

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Hosting frontend (ReactJS)	3	Talk	One minute paper
50	Hosting frontend (ReactJS)	3	Talk	One minute paper

Skilling Course DELIVERY Plan:

Skilling session no	Topics/Experiments	CO-Mapping
1	Analysis and identification of required resources (Identification of uniqueness in the project)	CO5
2	Creating ReactJS + Vite Project	CO5
3	Initiating the Design of Front end pages	CO5
4	Separating and creating the components according to the modules of the project	CO5
5	Working with React States, Props Management	CO5
6	Handling Events with Front End Pages	CO5
7	Implementing Routing Mechanism	CO5
8	Designing Authentication Pages	CO5
9	Utilizing Material UI / Bootstrap design elements	CO5
10	Redux State Management	CO5
11	Implementing Axios / Fetch (request and response) in front end	CO5
12	Creating backend application in spring boot framework	CO5
13	Connecting backend to database and doing CRUD operations	CO6

Skilling session no	Topics/Experiments	CO-Mapping
14	Implementing REST API with Spring Boot Framework	CO6
15	Integrating front end and back end as a full stack application	CO6
16	Implementing JWT, Encryption and Decryption	CO6
17	Implementing Role Based Authentication	CO6
18	Converting the project structure into microservices	CO6
19	Implementing Load Balancing to the Project	CO6
20	Connecting API Gateway and Spring Cloud to the Project	CO6
21	Implementing advanced features to the Project (Third party API Integration, mail, google maps, search and filter module, payment gateway, file storing in database, Captcha Generation, etc...)	CO6
22	Implementing advanced features to the Project (Third party API Integration, mail, google maps, search and filter module, payment gateway, file storing in database, Captcha Generation, etc...)	CO6
23	Hosting the Front End	CO6
24	Hosting the Front End	CO6

Skilling Session wise Teaching – Learning Plan

SESSION NUMBER : 1

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Analysis and identification of required resources (Identification of uniqueness in the project)	3	Talk	--- NOT APPLICABLE ---
50	Analysis and identification of required resources (Identification of uniqueness in the project)	1	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 2

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Creating ReactJS + Vite Project	3	PPT	--- NOT APPLICABLE ---
50	Creating ReactJS + Vite Project	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 3**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Initiating the Design of Front end pages	3	Talk	--- NOT APPLICABLE ---
50	Initiating the Design of Front end pages	3	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 4**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Separating and creating the components according to the modules of the project	3	PPT	--- NOT APPLICABLE ---
50	Separating and creating the components according to the modules of the project	1	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 5**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Working with React States, Props Management	3	PPT	--- NOT APPLICABLE ---
50	Working with React States, Props Management	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 6**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Handling Events with Front End Pages	3	PPT	--- NOT APPLICABLE ---
50	Handling Events with Front End Pages	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 7**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing Routing Mechanism	3	PPT	--- NOT APPLICABLE ---
50	Implementing Routing Mechanism	1	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 8**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Designing Authentication Pages	3	Chalk	--- NOT APPLICABLE ---
50	Designing Authentication Pages	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 9**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Utilizing Material UI / Bootstrap design elements	3	PPT	--- NOT APPLICABLE ---

50	Utilizing Material UI / Bootstrap design elements	3	PPT	--- NOT APPLICABLE ---
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SESSION NUMBER : 10**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Redux State Management	3	PPT	--- NOT APPLICABLE ---
50	Redux State Management	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 11**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing Axios / Fetch (request and response) in front end	3	PPT	--- NOT APPLICABLE ---
50	Implementing Axios / Fetch (request and response) in front end	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 12**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Creating backend application in spring boot framework	3	PPT	--- NOT APPLICABLE ---
50	Creating backend application in spring boot framework	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 13**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning	Active Learning

			Methods	Methods
50	Connecting backend to database and doing CRUD operations	3	PPT	--- NOT APPLICABLE ---
50	Connecting backend to database and doing CRUD operations	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 14

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing REST API with Spring Boot Framework	4	PPT	--- NOT APPLICABLE ---
50	Implementing REST API with Spring Boot Framework	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 15

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Integrating front end and back end as a full stack application	3	PPT	--- NOT APPLICABLE ---
50	Integrating front end and back end as a full stack application	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 16

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing JWT, Encryption and Decryption	3	PPT	--- NOT APPLICABLE ---
50	Implementing JWT, Encryption and Decryption	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 17

No Session Outcomes are mapped

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing Role Based Authentication	3	PPT	--- NOT APPLICABLE ---
50	Implementing Role Based Authentication	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 18**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Converting the project structure into microservices	3	PPT	--- NOT APPLICABLE ---
50	Converting the project structure into microservices	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 19**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing Load Balancing to the Project	3	PPT	--- NOT APPLICABLE ---
50	Implementing Load Balancing to the Project	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 20**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Connecting API Gateway and Spring Cloud to the Project	3	PPT	--- NOT APPLICABLE ---
50	Connecting API Gateway and Spring Cloud to the Project	4	PPT	--- NOT APPLICABLE

SESSION NUMBER : 21**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing advanced features to the Project (Third party API Integration, mail, google maps, search and filter module, payment gateway, file storing in database, Captcha Generation, etc...)	3	PPT	--- NOT APPLICABLE ---
50	Implementing advanced features to the Project (Third party API Integration, mail, google maps, search and filter module, payment gateway, file storing in database, Captcha Generation, etc...)	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 22**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Implementing advanced features to the Project (Third party API Integration, mail, google maps, search and filter module, payment gateway, file storing in database, Captcha Generation, etc...)	3	PPT	--- NOT APPLICABLE ---
50	Implementing advanced features to the Project (Third party API Integration, mail, google maps, search and filter module, payment gateway, file storing in database, Captcha Generation, etc...)	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 23**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Hosting the Front End	3	PPT	--- NOT APPLICABLE ---
50	Hosting the Front End	3	PPT	--- NOT APPLICABLE ---

SESSION NUMBER : 24**No Session Outcomes are mapped**

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
50	Hosting the Front End	3	PPT	--- NOT APPLICABLE ---
50	Hosting the Front End	3	PPT	--- NOT APPLICABLE ---

WEEKLY HOMEWORK ASSIGNMENTS/ PROBLEM SETS/OPEN ENDED PROBLEM-SOLVING EXERCISES etc:

Week	Assignment Type	Assignment No	Topic	Details	co
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COURSE TIME TABLE:

	Hour	1	2	3	4	5	6	7	8	9
Day	Component									
Mon	Theory	--	--	--	--	--	--	--	--	--
	Tutorial	--	--	--	--	--	--	--	--	--
	Lab	H-S2	H-S2	--	--	H-S4	H-S4	--	--	--
	Skilling	--	--	--	--	--	--	--	--	--
Tue	Theory	--	--	--	--	--	--	--	--	--
	Tutorial	--	--	--	--	--	--	--	--	--
	Lab	--	--	--	--	H-S5	H-S5	--	--	--
	Skilling	--	--	--	--	--	--	--	--	--
Wed	Theory	--	--	--	--	--	--	--	--	--
	Tutorial	--	--	--	--	--	--	--	--	--
	Lab	H-S4	H-S4	H-S1	H-S1	--	--	H-S2,H-S5	H-S2,H-S5	--
	Skilling	--	--	--	--	--	--	--	--	--
Thu	Theory	--	--	--	--	--	--	--	--	--
	Tutorial	--	--	--	--	--	--	--	--	--
	Lab	H-S3	H-S3	--	--	--	--	--	--	--
	Skilling	--	--	--	--	--	--	--	--	--
Fri	Theory	--	--	--	--	--	--	--	--	--
	Tutorial	--	--	--	--	--	--	--	--	--
	Lab	--	--	--	--	H-S1	H-S1	H-S3	H-S3	--
	Skilling	--	--	H-S4	H-S4	H-S2	H-S2	--	--	--
Sat	Theory	--	--	--	--	--	--	--	--	--
	Tutorial	--	--	--	--	--	--	--	--	--
	Lab	--	--	--	--	--	--	--	--	--
	Skilling	--	--	H-S1	H-S1	H-S5	H-S5	H-S3	H-S3	--

Sun	Theory	--	--	--	--	--	--	--	--	--
	Tutorial	--	--	--	--	--	--	--	--	--
	Lab	--	--	--	--	--	--	--	--	--
	Skilling	--	--	--	--	--	--	--	--	--

REMEDIAL CLASSES:

Supplement course handout, which may perhaps include special lectures and discussions that would be planned, and schedule notified according

SELF-LEARNING:

Assignments to promote self-learning, survey of contents from multiple sources.

S.no	Topics	CO	ALM	References/MOOCS
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DELIVERY DETAILS OF CONTENT BEYOND SYLLABUS:

Content beyond syllabus covered (if any) should be delivered to all students that would be planned, and schedule notified accordingly.

S.no	Advanced Topics, Additional Reading, Research papers and any	CO	ALM	References/MOOCS
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EVALUATION PLAN:

Evaluation Type	Evaluation Component	Weightage/Marks		Assessment Dates	Duration (Hours)	CO5	CO6
End Semester Summative Evaluation Total= 40 %	Hackathon-Final Review	Weightage	15		180	7.5	7.5
		Max Marks	100			50	50
	Global Certification	Weightage	10		180	5	5
		Max Marks	100			50	50
	Lab End Semester Exam	Weightage	15		180	7.5	7.5
		Max Marks	100			50	50
In Semester Formative Evaluation Total= 40 %	Global Challenges	Weightage	7.5		180	3.75	3.75
		Max Marks	100			50	50
	MOOCs Review	Weightage	10		180	5	5
		Max Marks	100			50	50
	Continuous Evaluation - Project	Weightage	10		180	5	5
		Max Marks	100			50	50
In Semester Summative	Continuous Evaluation - Lab Exercise	Weightage	12.5		180	6.25	6.25
		Max Marks	100			50	50
	Lab In sem-II	Weightage	10		180	5	5
		Max Marks	100			50	50

Evaluation	Lab In sem-I	Weightage	10	180	5	5
Total= 20 %		Max Marks	100		50	50

ATTENDANCE POLICY:

Every student is expected to be responsible for regularity of his/her attendance in class rooms and laboratories, to appear in scheduled tests and examinations and fulfill all other tasks assigned to him/her in every course. In every course, student has to maintain a minimum of 85% attendance to be eligible for appearing in Semester end examination of the course, for cases of medical issues and other unavoidable circumstances the students will be condoned if their attendance is between 75% to 85% in every course, subjected to submission of medical certificates, medical case file and other needful documental proof to the concerned departments.

DETENTION POLICY :

In any course, a student has to maintain a minimum of 85% attendance and In-Semester Examinations to be eligible for appearing to the Semester End Examination, failing to fulfill these conditions will deem such student to have been detained in that course.

PLAGIARISM POLICY :

Supplement course handout, which may perhaps include special lectures and discussions

COURSE TEAM MEMBERS, CHAMBER CONSULTATION HOURS AND CHAMBER VENUE DETAILS:

Supplement course handout, which may perhaps include special lectures and discussions

Name of Faculty	Delivery Component of Faculty	Sections of Faculty	Chamber Consultation Day (s)	Chamber Consultation Timings for each day	Chamber Consultation Room No:	Signature of Course faculty:
Anantha Reddy Dasari	P	5-MA	-	-	-	-
Anantha Reddy Dasari	S	5-MA	-	-	-	-
CHANDA RAJ KUMAR	P	1-MA	-	-	-	-
CHANDA RAJ KUMAR	S	1-MA	-	-	-	-
Chiranjeevi Nuthalapati	P	3-MA	-	-	-	-
Chiranjeevi Nuthalapati	S	3-MA	-	-	-	-
A SIVA KRISHNA REDDY	P	2-MA,4-MA	-	-	-	-
A SIVA KRISHNA REDDY	S	2-MA,4-MA	-	-	-	-

GENERAL INSTRUCTIONS

Students should come prepared for classes and carry the text book(s) or material(s) as prescribed by the Course Faculty to the class.

NOTICES

Most of the notices are available on the LMS platform.

All notices will be communicated through the institution email.

All notices concerning the course will be displayed on the respective Notice Boards.

Signature of COURSE COORDINATOR

(A SIVA KRISHNA REDDY)

Signature of Department Prof. Incharge Academics & Vetting Team Member

Department Of CSE-Honors

HEAD OF DEPARTMENT:**Approval from: DEAN-ACADEMICS**

(Sign with Office Seal) [object HTMLDivElement]