K L Deemed to be University
Department of CSE -- KLVZA
Course Handout
2021-2022, Odd Sem

Course Title	:Technical Skilling (SDP-3)
Course Code	:19TS3101S
L-T-P-S Structure	: 0-0-0-8
Pre-requisite	:
Credits	: 2
Course Coordinator	:SURYA KIRAN JONNALAGADDA
Team of Instructors	:
Teaching Associates	:

Syllabus :JDBC API - Introduction to JDBC API, Type of Drivers in JDBC, Statement, PreparedStatement, CallableStatement, ResultSetMetaData, DatabaseMetaData, Scrollable & Updatable ResultSet, Transaction Management in JDBC. JUnit - Introduction to JUnit framework, JUnit Environment Setup, Features of Junit Framework, Junit Framework and its Implementation. XML - Introduction to XML, Advantages of XML, XML Tree, XML Attributes, XML DOM, DTD, XSD, XML with CSS, XSLT. Servlets - Introduction to Servlets, Lifecycle, Init and context parameters, Servlet Collaboration, Session Tracking Techniques, Servlet CRUD Operations. JSP – Servlets Vs JSP, JSP Architecture and Lifecycle, JSP Scripting Elements, Session Tracking Techniques, JSP Implicit Objects, JSP Directive Elements, JSP Action Tags, JSP MVC Architecture, JSP CRUD Operations. Hibernate – JDBC Vs Hibernate, Introduction to Hibernate Framework, Advantages, XML & Annotation based Hibernate CRUD Operations, Generator Classes in Hibernate, HQL, HCQL. Spring and Spring Boot – Introduction to Spring, Spring Architecture, Spring Vs Spring Boot, Maven Repository, Introduction to Spring Boot, Advantages of Spring Boot over Spring, Dependency Injection (DI), Inversion of Control (IoC), Creating Spring starter project, Hello World Application using Spring Boot, Spring Boot Autowire, Web Application MVC using Spring Boot, Spring Boot CRUD Operations with Spring MVC, Spring Boot with RESTful Web Service, Spring Boot and RESTful API Vs REST API with JSON, Spring Boot and Hibernate CRUD Operations, Microservices with Spring – monolithic vs micro-service Architecture, SOA vs Microservices, Spring Boot Microservices with Spring Cloud. Arrays, linked list, Stack, Queue, Recursion, Divide & Conquer technique, Greedy method, Dynamic Programming Technique, String, Sort, Binary search.

Text Books :1. Web Technologies: Concepts, Methodologies, Tools, and Applications, Information Science Reference,4th edition, Arthur Tatnall 2. Spring and Hibernate, Tata McGraw-Hill Education,2009, Santosh Kumar k 3. Beginning Spring Boot 2 Applications and Microservices with the Spring Framework, Apress,1st edition, K. Siva Prasad Reddy 4. Java Persistence with Hibernate, Manning Publications,2nd edition, Christian Bauer, Gavin King, Gary Gregory 5. Java: A Beginner's Guide, Herbert Schildt, 8th edition, McGraw Hill Education. 6. Java-The complete reference, Herbert Schildt, 11th edition, McGraw Hill Education. 7. Learn Python 3 The Hard Way, by Zed A. Shaw 8. Headfirst Python: A Brain-Friendly Guide, by Paul Barry

Reference Books :1. XSLT: Working with XML and HTML, Khun Yee Fung, Addison-Wesley, 2001. 2. J2EE: The complete reference by James Keogh, publisher: McGraw-Hill Osborne Media, 1st Edition, 2002. 3. Spring in Practice by Willie Wheeler with Joshua White, publisher: Manning, shelter Island 4. Beginning Hibernate for Hibernate 5 by Joseph B.Ottinger, Jeff Liwood, Dave Minter, publisher: Apress, 4th Edition

MOOCS :1. Become a Spring Developer https://www.linkedin.com/learning/paths/become-a-spring-developer 2. Building Scalable Java Microservices with Spring Boot and Spring https://www.coursera.org/learn/google-cloud-java-spring 3. Building Cloud Services with the Java Spring Framework https://www.coursera.org/learn/cloudservices-java-spring-framework 4. Microservices Foundations https://www.linkedin.com/learning/microservices-foundations 5. Microservices: Asynchronous Messaging https://www.linkedin.com/learning/microservices-asynchronous-messaging/getting-work-donein-microservices 6. Serverless and Microservices for AWS

https://www.linkedin.com/learning/serverless-and-microservices-for-aws/why-serverless-whymicroservices 7. Introduction-to-graduate-algorithms—ud401 https://www.udacity.com/course/introduction-to-graduate-algorithms--ud401
Course Rationale : The current programming trend of the software industry due to the size of the problems handled totally based on Object oriented concepts. Most of the Web applications and Enterprise applications using different types of client side and server side technologies. Therefore it is essential for every CSE student must undergo these technologies. This course is to make the student understand and apply the technologies like JDBC API, JUNIT, XML, Servlets, JSP, Hibernate, Spring and Spring Boot. All the relevant technologies will be demonstrated in tools like notepad, notepad++, Eclipse IDE, IntelliJ IDE, NetBeans etc. The students will also develop Enterprise Level Application and It will be deployed in Cloud also.
Course Objectives : Make Students to Know, Understand, Apply and Analyze Client as well as Server Side Technologies to develop Console, Web and Enterprise Level Applications in JAVA.

COURSE OUTCOMES (COs):

CO NO	Course Outcome (CO)	PO/PSO	Blooms Taxonomy Level (BTL)
CO1	Apply JDBC API, JUnit Testing Framework and XML Concepts to build Console and Web Applications	PSO1,PO1	3
CO2	Implement Servlets, JSP, Hibernate, Spring and Spring Boot to build web applications and Enterprise Level applications.	PO3,PSO1	3
CO3	Analyze the design of linear data structures for real world problems.	PSO2,PO3	4
CO4	Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario.	PSO2,PO3	4

COURSE OUTCOME INDICATORS (COIs)::

Outcome No.	Highest BTL	COI-3	COI-4
CO1	3	**Btl-3** Apply JDBC API, JUnit Testing Framework and XML Concepts to build Console and Web Applications	
CO2	3	**Btl-3** Implement Servlets, JSP, Hibernate, Spring and Spring Boot to build web applications and Enterprise Level applications.	
CO3	4		**Btl-4** Analyze the design of linear data structures for real world problems
CO4	4		**Btl-4** Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario.

PROGRAM OUTCOMES & PROGRAM SPECIFIC OUTCOMES (POs/PSOs)

Po No.	Program Outcome

PO1	Engineering Knowledge :An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization for the solution of complex engineering problems in engineering
PO2	Problem Analysis :An ability to identify, formulate, research literature, analyze complex engineering problems in mechanical engineering using first principles of mathematics, natural sciences and engineering sciences
PO3	Design/ development of solutions :An ability to design solutions for complex engineering problems and system component or processes that meet the specified needs considering public health & safety and cultural, societal & environment
PO4	Conduct investigations of complex problems :An ability to use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to obtain solutions to engineering problems
PO5	Modern tool usage :Ability to create, select and apply appropriate techniques, resources and modern engineering activities, with an understanding of the limitations
PO6	The engineer and society :Ability to 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 Ability to demonstrate the knowledge of engineering solutions, contemporary issues understanding their impacts on societal and environmental contexts, leading towards sustainable development
PO8	Ethics : An ability to apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice
PO9	Individual and team work :An ability to function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings
PO10	Communication :Ability to communicate effectively oral, written reports and graphical forms on complex engineering activities
PO11	Project management and finance :Ability to demonstrate knowledge and understanding of the engineering and management principles and apply those one’s own work, as a member and leader in team, to manage projects and in multi-disciplinary environments
PO12	Lifelong learning An ability to recognize the need for and having the preparation and ability to engage independent and life-long learning in 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: NO Delivery Plan Exists

Practical Session wise Teaching – Learning Plan

No Session Plans Exists

Skilling Course DELIVERY Plan:

Skilling session no	Topics/Experiments	CO-Mapping
1	Course Handout Explanation, Introduction to JDBC API and Drivers	CO1
2	JDBC Programming and Database Connection	CO1
3	Statement, PreparedStatement	CO1
4	Stored Procedure and CallableStatement	CO1
5	ResultSetMetaData, DatabaseMetaData	CO1
6	Scrollable & Updatable ResultSet	CO1
7	Transaction Management	CO1
8	Introduction to JUnit framework, JUnit Environment Setup	CO1
9	Features of Junit Framework, Junit Framework and its Implementation	CO1
10	Introduction to XML, Advantages of XML, XML Tree, XML Attributes	CO1
11	XML DOM, DTD	CO1
12	XSD, XML with CSS, XSLT	CO1
13	Servlet Life Cycle, Init and Context Parameters, Servlet Collaboration	CO2
14	Session Tracking Techniques, Servlet CRUD Operations	CO2
15	Servlets Vs JSP, JSP Architecture and Lifecycle, JSP Scripting Elements	CO2
16	Session Tracking Techniques, JSP Implicit Objects	CO2
17	JSP Directive Elements, JSP Action Tags, JSP MVC Architecture	CO2
18	JSP CRUD Operations, JDBC Vs Hibernate	CO2
19	XML & Annotation based Hibernate CRUD Operations, Generator Classes in Hibernate	CO2
20	HQL, HCQL	CO2
21	Spring Vs Spring Boot, Dependency Injection (DI), Inversion of Control (IoC)	CO2
22	Creating Spring starter project, Dependency Injection, Inversion of Control and Auto Wiring	CO2

Skilling session no	Topics/Experiments	CO-Mapping
23	CRUD Operations with Spring MVC, RESTful Web Service, RESTful API Vs REST API	CO2
24	Spring Boot Microservices with Spring Cloud	CO2
25	Problems on Arrays	CO3
26	Arrays	CO3
27	Problems on Linked List	CO3
28	Problems on Linked List	CO3
29	Problems on Stack	CO3
30	Problems on Queue	CO3
31	Problems on Recursion	CO3
32	Problems on Recursion	CO3
33	Problems on Divide and Conquer	CO3
34	Problems on Divide and Conquer	CO3
35	Problems on Greedy technique	CO4
36	Problems on Greedy technique	CO4
37	Problems on Dynamic Programming	CO4
38	Problems on Dynamic Programming	CO4
39	Problems on Dynamic Programming	CO4
40	Problems on Dynamic Programming	CO4
41	Problems on String concept	CO4
42	Problems on String	CO4
43	Problems on String	CO4
44	Problems on String	CO4
45	Problems on Sorting technique	CO4

Skilling session no	Topics/Experiments	CO-Mapping
46	Problems on Sorting technique	CO4
47	Problems on Binary search	CO4
48	Problems on Binary search	CO4

Skilling Session wise Teaching – Learning Plan

SESSION NUMBER : 1

Session Outcome: 1 To implement Console Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Course Handout Explanation, Introduction to JDBC API and Drivers	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 2

Session Outcome: 1 To implement Console Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	JDBC Programming and Database Connection	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 3

Session Outcome: 1 To implement Console Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT

				APPLICABLE ---
10	Statement, PreparedStatement	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 4

Session Outcome: 1 To implement Console Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Stored Procedure and CallableStatement	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 5

Session Outcome: 1 To Implement Console Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	ResultSetMetaData, DatabaseMetaData	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 6

Session Outcome: 1 To Implement Console Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Scrollable & Updatable ResultSet	3	PPT	--- NOT APPLICABLE

50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 7

Session Outcome: 1 To Implement Console Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Transaction Management	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 8

Session Outcome: 1 To Implement Console Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Introduction to JUnit framework, JUnit Environment Setup	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 9

Session Outcome: 1 To Implement Console Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Features of Junit Framework, Junit Framework and its Implementation	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 10

Session Outcome: 1 To Implement Console Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Introduction to XML, Advantages of XML, XML Tree, XML Attributes	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 11

Session Outcome: 1 To Implement Web Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	XML DOM, DTD	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 12

Session Outcome: 1 To Implement Web Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	XSD, XML with CSS, XSLT	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 13

Session Outcome: 1 To Implement Web Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Servlet Life Cycle, Init and Context Parameters, Servlet Collaboration	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 14

Session Outcome: 1 To Implement Web Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Session Tracking Techniques, Servlet CRUD Operations	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 15

Session Outcome: 1 To Implement Web Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Servlets Vs JSP, JSP Architecture and Lifecycle, JSP Scripting Elements	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 16

Session Outcome: 1 To Implement Web Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT

				APPLICABLE ---
40	Session Tracking Techniques, JSP Implicit Objects	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 17

Session Outcome: 1 To Implement Web Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	JSP Directive Elements, JSP Action Tags, JSP MVC Architecture	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 18

Session Outcome: 1 To Implement Web Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	JSP CRUD Operations, JDBC Vs Hibernate	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 19

Session Outcome: 1 To Implement Web Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	XML & Annotation based Hibernate CRUD Operations, Generator Classes in Hibernate	3	PPT	--- NOT APPLICABLE

50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 20

Session Outcome: 1 To Implement Web Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	HQL, HCQL	3	PPT	--- NOT APPLICABLE ---
40	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 21

Session Outcome: 1 To Implement Enterprise Level Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Spring Vs Spring Boot, Dependency Injection (DI), Inversion of Control (IoC)	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 22

Session Outcome: 1 To Implement Enterprise Level Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Creating Spring starter project, Dependency Injection, Inversion of Control and Auto Wiring	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 23

Session Outcome: 1 To Implement Enterprise Level Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	CRUD Operations with Spring MVC, RESTful Web Service, RESTful API Vs REST API	3	PPT	--- NOT APPLICABLE ---
50	Experimentation	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 24

Session Outcome: 1 To Implement Enterprise Level Applications

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and Attendance	1	Talk	--- NOT APPLICABLE ---
40	Spring Boot Microservices with Spring Cloud	3	PPT	--- NOT APPLICABLE ---
50	Deployment in Cloud	3	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 25

Session Outcome: 3 Analyze the design of linear data structures for real world problems.

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Arrays	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Arrays	4	LTC	--- NOT APPLICABLE ---

SESSION NUMBER : 26

Session Outcome: 3 Analyze the design of linear data structures for real world problems.

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Arrays	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Arrays	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 27

Session Outcome: 3 Analyze the design of linear data structures for real world problems.

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Linked List	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Linked List	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 28

Session Outcome: 3 Analyze the design of linear data structures for real world problems.

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Linked List	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Linked List	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 29

Session Outcome: 3 Analyze the design of linear data structures for real world problems.

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT

				APPLICABLE ---
40	Problems on Stack	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Stack	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 30

Session Outcome: 3 Analyze the design of linear data structures for real world problems.

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Queue	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Queue	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 31

Session Outcome: 3 Analyze the design of linear data structures for real world problems.

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Recursion	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Recursion	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 32

Session Outcome: 3 Analyze the design of linear data structures for real world problems.

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Recursion	4	PPT	--- NOT APPLICABLE

50	Experimentation on Recursion	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 33

Session Outcome: 3 Analyze the design of linear data structures for real world problems.

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Divide and conquer technique	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Divide and conquer problems	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 34

Session Outcome: 3 Analyze the design of linear data structures for real world problems.

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Divide and conquer technique	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Divide and conquer problems	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 35

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Greedy technique	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Greedy problems	4	Talk	--- NOT APPLICABLE

SESSION NUMBER : 36

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Greedy technique	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Greedy problems	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 37

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Dynamic Programming technique	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Dynamic Programming problems	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 38

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Dynamic Programming technique	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Dynamic Programming problems	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 39

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Dynamic Programming technique	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Dynamic Programming problems	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 40

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Dynamic Programming technique	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Dynamic Programming problems	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 41

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on String	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on String	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 42

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on String	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on String	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 43

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on String	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on String	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 44

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on String	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on String	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 45

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Sorting technique	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Sorting problems	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 46

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Sorting technique	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Sorting problems	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 47

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Binary search	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Binary search	4	Talk	--- NOT APPLICABLE ---

SESSION NUMBER : 48

Session Outcome: 4 Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario

Time(min)	Topic	BTL	Teaching-Learning Methods	Active Learning Methods
10	Recap and attendance	1	Talk	--- NOT APPLICABLE ---
40	Problems on Binary search	4	PPT	--- NOT APPLICABLE ---
50	Experimentation on Binary search	4	Talk	--- NOT APPLICABLE ---

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

Week	Assignment Type	Assignment No	Topic	Details	co

COURSE TIME TABLE:

	Hour	1	2	3	4	5	6	7	8	9
Day	Component									
Mon	Theory	---	---	--	--	---	---	---	---	---
	Tutorial	---	---	--	--	---	---	---	---	---
	Lab	---	---	--	--	---	---	---	---	---
	Skilling	---	---	V-S10,V-S10,V-S11,V-S11,V-S12,V-S12,V-S13,V-S13,V-S14,V-S14,V-S15,V-S15,V-S16,V-S16,V-S17,V-S17,V-	V-S10,V-S10,V-S11,V-S11,V-S12,V-S12,V-S13,V-S13,V-S14,V-S14,V-S15,V-S15,V-S16,V-S16,V-S17,V-S17,V-	---	---	---	---	---

				S18,V-S18	S18,V-S18					
Tue	Theory	---	---	--	--	--	--	---	---	---
	Tutorial	---	---	--	--	--	--	---	---	---
	Lab	---	---	--	--	--	--	---	---	---
	Skilling	---	---	V-S10,V-S10,V-S11,V-S11,V-S12,V-S12,V-S13,V-S13,V-S14,V-S14,V-S15,V-S15,V-S16,V-S16,V-S17,V-S17,V-S18,V-S18	V-S10,V-S10,V-S11,V-S11,V-S12,V-S12,V-S13,V-S13,V-S14,V-S14,V-S15,V-S15,V-S16,V-S16,V-S17,V-S17,V-S18,V-S18	V-S19,V-S19,V-S20,V-S20,V-S21,V-S21,V-S22,V-S22,V-S23,V-S23,V-S24,V-S24,V-S25,V-S25,V-S26,V-S26,V-S27,V-S27	V-S19,V-S19,V-S20,V-S20,V-S21,V-S21,V-S22,V-S22,V-S23,V-S23,V-S24,V-S24,V-S25,V-S25,V-S26,V-S26,V-S27,V-S27	---	---	---
Wed	Theory	---	---	---	---	---	---	---	--	--
	Tutorial	---	---	---	---	---	---	---	--	--
	Lab	---	---	---	---	---	---	---	--	--
	Skilling	---	---	---	---	---	---	---	V-S19,V-S19,V-S20,V-S20,V-S21,V-S21,V-S22,V-S22,V-S23,V-S23,V-S24,V-S24,V-S25,V-S25,V-S26,V-	V-S19,V-S19,V-S20,V-S20,V-S21,V-S21,V-S22,V-S22,V-S23,V-S23,V-S24,V-S24,V-S25,V-S25,V-S26,V-

									S26,V-S27,V-S27	S26,V-S27,V-S27
Thu	Theory	---	---	--	--	---	---	---	---	---
	Tutorial	---	---	--	--	---	---	---	---	---
	Lab	---	---	--	--	---	---	---	---	---
	Skilling	---	---	V-S1,V-S1,V-S2,V-S2,V-S3,V-S3,V-S4,V-S4,V-S5,V-S5,V-S6,V-S6,V-S7,V-S7,V-S8,V-S8,V-S9,V-S9	V-S1,V-S1,V-S2,V-S2,V-S3,V-S3,V-S4,V-S4,V-S5,V-S5,V-S6,V-S6,V-S7,V-S7,V-S8,V-S8,V-S9,V-S9	---	---	---	---	---
Fri	Theory	--	--	---	---	--	--	---	---	---
	Tutorial	--	--	---	---	--	--	---	---	---
	Lab	--	--	---	---	--	--	---	---	---
	Skilling	V-S10,V-S10,V-S11,V-S11,V-S12,V-S12,V-S13,V-S13,V-S14,V-S14,V-S15,V-S15,V-S16,V-S16,V-S17,V-	V-S10,V-S10,V-S11,V-S11,V-S12,V-S12,V-S13,V-S13,V-S14,V-S14,V-S15,V-S15,V-S16,V-S16,V-S17,V-	---	---	V-S1,V-S1,V-S2,V-S2,V-S3,V-S3,V-S4,V-S4,V-S5,V-S5,V-S6,V-S6,V-S7,V-S7,V-S8,V-S8,V-S9,V-S9,V-S19,V-S19,V-S20,V-S20,V-S21,V-S21,V-S22,V-S22,V-S23,V-S23,V-S24,V-S24,V-S25,V-S25,V-	V-S1,V-S1,V-S2,V-S2,V-S3,V-S3,V-S4,V-S4,V-S5,V-S5,V-S6,V-S6,V-S7,V-S7,V-S8,V-S8,V-S9,V-S9,V-S19,V-S19,V-S20,V-S20,V-S21,V-S21,V-S22,V-S22,V-S23,V-S23,V-S24,V-S24,V-S25,V-S25,V-	---	---	---

		S17,V-S18,V-S18	S17,V-S18,V-S18			S26,V-S26,V-S27,V-S27	S26,V-S26,V-S27,V-S27			
Sat	Theory	---	---	---	---	--	--	---	--	--
	Tutorial	---	---	---	---	--	--	---	--	--
	Lab	---	---	---	---	--	--	---	--	--
	Skilling	---	---	---	---	V-S1,V-S1,V-S2,V-S2,V-S3,V-S3,V-S4,V-S4,V-S5,V-S5,V-S6,V-S6,V-S7,V-S7,V-S8,V-S8,V-S9,V-S9	V-S1,V-S1,V-S2,V-S2,V-S3,V-S3,V-S4,V-S4,V-S5,V-S5,V-S6,V-S6,V-S7,V-S7,V-S8,V-S8,V-S9,V-S9	---	V-S10,V-S10,V-S11,V-S11,V-S12,V-S12,V-S13,V-S13,V-S14,V-S14,V-S15,V-S15,V-S16,V-S16,V-S17,V-S17,V-S18,V-S18	V-S10,V-S10,V-S11,V-S11,V-S12,V-S12,V-S13,V-S13,V-S14,V-S14,V-S15,V-S15,V-S16,V-S16,V-S17,V-S17,V-S18,V-S18
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

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

EVALUATION PLAN:

Evaluation Type	Evaluation Component	Weightage/Marks		Assessment Dates	Duration (Hours)	CO1	CO2	CO3	CO4
End Semester Summative Evaluation Total= 40 %	Poster Presentation	Weightage	15		180	3.75	3.75	3.75	3.75
		Max Marks	100			25	25	25	25
	Skill Sem-End Exam	Weightage	25		180	6.25	6.25	6.25	6.25
		Max Marks	100			25	25	25	25
In Semester Formative Evaluation Total= 30 %	Weekly Contest	Weightage	5		120	1.25	1.25	1.25	1.25
		Max Marks	100			25	25	25	25
	Hackathon	Weightage	10		120	2.5	2.5	2.5	2.5
		Max Marks	100			25	25	25	25
	Continuous Evaluation -Project	Weightage	5		120	1.25	1.25	1.25	1.25
		Max Marks	100			25	25	25	25
	MOOCs Review	Weightage	5		120	1.25	1.25	1.25	1.25
		Max Marks	100			25	25	25	25
	Skilling Continuous Evaluation	Weightage	5		120	1.25	1.25	1.25	1.25
		Max Marks	100			25	25	25	25
In Semester Summative Evaluation Total= 30 %	Semester in Exam-I	Weightage	7.5		120	1.875	1.875	1.875	1.875
		Max Marks	50			12.5	12.5	12.5	12.5
	Semester in Exam-II	Weightage	7.5		120	1.875	1.875	1.875	1.875
		Max Marks	50			12.5	12.5	12.5	12.5
	MOOCs Certification	Weightage	5		120	1.25	1.25	1.25	1.25
		Max Marks	100			25	25	25	25
	Leaderboard ranking for Global Challenges	Weightage	5		120	1.25	1.25	1.25	1.25
		Max Marks	50			12.5	12.5	12.5	12.5
	Prototype Demonstration	Weightage	5		120	1.25	1.25	1.25	1.25
		Max Marks	50			12.5	12.5	12.5	12.5

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:
Kallipalli Raju	S	12-A	-	-	-	-
VENKATA NAGA RAMESH JANJHYAM	S	1-B,13-B,22-A	-	-	-	-
Miriyala Basu	S	15-A	-	-	-	-
Chitta M H Saibaba	S	8-A,12-A,21-A	-	-	-	-
Kantha Rao Vinjamuri	S	9-A,13-A,22-A	-	-	-	-
MADHURI KOMMINENI	S	5-A,23-A	-	-	-	-
SURYA KIRAN JONNALAGADDA	S	1-A,10-A	-	-	-	-
KAVITHA MODEPALLI	S	3-A	-	-	-	-
Ashesh Kinjirapu	S	3-A	-	-	-	-
VENKATA RAMANA NADAKUDURU	S	4-A,17-A	-	-	-	-
HarikaLakshmi Sikhakolli	S	5-A,19-A	-	-	-	-
Deepak V	S	6-A,14-A,25-A	-	-	-	-
SUNANDA NALAJALA	S	16-A	-	-	-	-
REVATHI BHIMAVARAPU	S	1-B,10-B	-	-	-	-
PRAVEEN TUMULURU	S	10-A	-	-	-	-
DINESH ANGURAJ	S	1-A,22-B	-	-	-	-
Arvind Yadav	S	20-B	-	-	-	-
NAVEEN N	S	11-B	-	-	-	-
KOTAKONDA BABU	S	14-A	-	-	-	-
Kunda Prasad	S	2-B,16-	-	-	-	-

		A,20-A				
SEETHA RAMA KRISHNA PENUGONDA	S	3-B	-	-	-	-
HARAN PELLAKURI	S	2-A,24-A	-	-	-	-
PRASAD CHITTURI	S	6-B	-	-	-	-
OM PRAKASH P G	S	5-B,16-B	-	-	-	-
Abdul A	S	12-B,19-A	-	-	-	-
KARUNAKAR GUDALA	S	7-B,17-B,25-B	-	-	-	-
Veerraju Gampala	S	8-B	-	-	-	-
Sindhura Surapaneni	S	5-B,16-B	-	-	-	-
Pavan Ande	S	7-A,18-A,26-A	-	-	-	-
Murali Vutukuru	S	11-A,27-A	-	-	-	-
Hrushi Sangaraju	S	7-A,11-B	-	-	-	-
Balajee R M	S	18-B,23-A	-	-	-	-
SMRITILEKHA DAS	S	17-B,19-B	-	-	-	-
SRIHARI GOLE	S	9-B,13-B	-	-	-	-
P MANIVANNAN	S	20-A	-	-	-	-
Kavitha Thiyagarajan	S	2-B	-	-	-	-
NITISH KUMAR	S	15-B,26-B	-	-	-	-
Sasmita Padhy	S	21-B	-	-	-	-
Subrata Nandi	S	25-A	-	-	-	-
Movva Kiranbabu	S	11-A,27-A	-	-	-	-
Shradha Zilpe	S	22-B	-	-	-	-
Panguluri Chowdary	S	2-A,25-B	-	-	-	-
Anantha Reddy Dasari	S	18-A,23-B	-	-	-	-
SANJEEV KUMAR	S	4-A,14-B,27-B	-	-	-	-
SAVARAM MYTHREYA	S	18-A,19-B	-	-	-	-
Vijay Anand P	S	8-A,15-B,24-A	-	-	-	-
SUDESHNA SANI	S	12-	-	-	-	-

		B,21-B				
RAMESH MAILAPALLI	S	9-A,17-A,26-B	-	-	-	-
Bandarupalli Rao	S	6-A,18-B	-	-	-	-
Madhusudhanan Sampath	S	24-B	-	-	-	-
RANI MEDIDHA	S	7-B,13-A	-	-	-	-
JEYABHARATHI Jeganmohan	S	4-B,23-B	-	-	-	-
Sathish Kumar K	S	20-B	-	-	-	-
AREPALLI GOPI	S	3-B,27-B	-	-	-	-
Aravinth Seshadri	S	6-B	-	-	-	-
Umamaheswararao Batta	S	4-B,21-A	-	-	-	-
SURESH DODDI	S	14-B	-	-	-	-
NAGARJUNA KARYEMSETTY	S	6-B	-	-	-	-
Sudan Jha	S	14-A	-	-	-	-
Anusha Ponnuru	S	9-B,15-A,24-B	-	-	-	-
SRITHAR S	S	19-B	-	-	-	-
Manmohan Singh	S	8-B,10-B,26-A	-	-	-	-

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

(SURYA KIRAN JONNALAGADDA)

Signature of Department Prof. Incharge Academics & Vetting Team Member

Department Of CSE

HEAD OF DEPARTMENT:

Approval from: DEAN-ACADEMICS
(Sign with Office Seal) [object HTMLDivElement]