

# Vijaya College, R.V Road, Bengaluru-560004

Department of Computer Science

Academic year-2024-2025

Academic Planner with unitisation of the Entire Syllabus (on hourly basis)

Name of the Department	Computer Science	Subject Title	Teacher
Semester	VI	BCA "A" sec : Internet Technologies	Shrinidhi Kulkarni, Shilpakala
Week/Month	Day	Portions Planned for 1 hour	
2 <sup>nd</sup> week of Feb.	1		SH
	2		SPK
	3		SPK
	4		SPK
	5		SPK
3 <sup>rd</sup> week of Feb	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
4 <sup>th</sup> week of Feb	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
1 <sup>st</sup> week of Mar	1		SPK
	2		SPK
	3		SPK

	4		SPK
	5		SPK
<b>2nd week of Mar</b>	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
<b>3rd week of Mar</b>	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
<b>4th week of Mar</b>	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
<b>1st week of Apr</b>	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
<b>2nd week of Apr</b>	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
<b>3rd week of</b>	1		SPK

<b>Apr</b>	2		SPK
	3		SPK
	4		SPK
	5		SPK
<b>4th week of Apr</b>	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
<b>1st week of May</b>	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
<b>2nd week of May</b>	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
<b>3rd week of May</b>	1		SPK
	2		SPK
	3		SPK
	4		SPK
	5		SPK
<b>4th week of May</b>	1		SPK
	2		SPK
	3		SPK



# Vijaya College, RV Road, Bengaluru-560004

Department of Computer Science

CURRICULAR ASPECTS for the academic year 2024-2025

Academic Planner with unitisation of the Entire Syllabus

Name of the Department	Computer Science	Subject Title	Teacher name
Semester	VI BCA	CA-C27T: Machine Learning Total Teaching Hours: 60 No of Hours / Week: 04	BN
Week/Month	Day	Portions Planned for 1 hour	
3rd Week of Feb (17/02/25)	1	<b>UNIT 1: Fundamentals of Machine Learning</b> Introduction to Machine Learning: What is Machine Learning?	BN
	2	Why Use Machine Learning? Types of Machine Learning Systems	
	3	Types of Machine Learning Systems	
	4	Main Challenges of Machine Learning	
4 <sup>th</sup> Week of Feb	1	Applications of Machine Learning.	BN
	2	Why Python, scikit-learn	
	3	Scikit-learn	
	4	Essential Libraries and Tools	
1 <sup>st</sup> Week of March	1	Essential Libraries and Tools	BN
	2	Revision unit1	
	3	<b>UNIT 2: Data Preparation</b> Working with Real Data	

	4	Look at the Big Picture- example	<b>BN</b>
<b>2<sup>nd</sup> Week of March</b>	1	Look at the Big Picture, Get the Data	
	2	Discover and Visualize the Data to Gain Insights.	
	3	Discover and Visualize the Data to Gain Insights.	
	4	Prepare the Data for Machine Learning Algorithms	
<b>3<sup>rd</sup> Week of March</b>	1	Select and Train a Model	
	2	Select and Train a Model	
	3	<b>Revision Unit2</b>	
	4	<b>UNIT 3: Supervised Learning :</b> Classification and Regression	
<b>4<sup>th</sup> Week of March</b>	1	Classification and Regression	
	2	Some Sample Datasets	
	3	k-Nearest Neighbours	
	4	Linear Models	
<b>1<sup>st</sup> Week of April</b>	1	Linear Models	
	2	Naive Bayes Classifiers	
	3	Naive Bayes Classifiers	
	4	Decision Trees.	
<b>2<sup>nd</sup> Week of April</b>	1	Decision Trees.	
	2	Revision unit3	
	3	Discussion on Unit -1 2 3	

	4	<b>UNIT 4: Unsupervised Learning</b>	<b>BN</b>
		Clustering	
<b>3rd Week of April</b>	1	Clustering	
	2	K-Means, Limits of K-Means	
	3	K-Means, Limits of K-Means	
	4	Using clustering for Image Segmentation	
<b>4th Week of April</b>	1	Internals	
	2	Internals	
	3	Internals	
	4	Internals	
<b>1<sup>st</sup> Week of May</b>	1	Using clustering for image segmentation	
	2	Using Clustering for Preprocessing	
	3	Using Clustering for Preprocessing	
	4	Using Clustering for Semi-Supervised Learning	
<b>2<sup>nd</sup> Week of May</b>	1	DBSCAN	
	2	DBSCAN	
	3	Other Clustering Algorithms.	
	4	Other Clustering Algorithms.	
<b>3rd Week of May</b>	1	Revision unit4	
	2	Revision/Extra Classes/test	
	3	Revision/Extra Classes/test	
	4	Revision/Extra Classes/test	
<b>4th Week of May</b>	1	Class test/doubt clearing sessions	
	2	Class test/doubt clearing sessions	
	3	Class test/doubt clearing sessions	
	4	Class test/doubt clearing sessions	

## Course Outcome

1. Learn the basics of machine learning, understanding its uses, challenges, and various applications.
2. Build practical data skills, covering data collection, analysis, visualization, and preparation.
3. Become skilled in using classification and regression algorithms, including selecting, training, and evaluating models.
4. Dive into advanced clustering and specialized applications, using methods like KMeans, DBSCAN, and others.

# Vijaya College, RV Road, Bengaluru-560004

## Department of Computer science

### NAAC criteria-1: CURRICULAR ASPECTS for the academic year 2024-2025

#### 1. Academic Planner with unitization of the entire syllabus (on hourly basis)

Name of the Department	Computer science	Subject Title	CA-E2
BCA	VI SEM	SOFTWARE TESTING	Teacher
Week/Month	Day	Portions Planned for 3 hour	SRIKANTH S S (SSS)
3 <sup>rd</sup> week of APR 25	1	Introduction: Basic definitions, A testing life cycle, Test Cases,	SSS
	2	Fundamental approaches to apply Test Cases, Levels of Testing,	
	3	Examples: The NextDate function, Triangle problem and The Commission Problem	
4th week of APR 25	1	The SATM (Simple Automatic Teller Machine) problem.	SSS
	2	Boundary Value Testing: Generalizing Boundary Value Analysis,	
	3	Limitations of Boundary Value Analysis, Robustness Testing,	
1 <sup>ST</sup> week of MAY 25	1	Worst-Case Testing, Special Value Testing	SSS
	2	Test cases for the Triangle problem, Test cases for the NextDate function, Test cases for the Commission Problem,	
	3	Random Testing and Guidelines for Boundary Value Testing.	
2nd week of MAY 25	1	Equivalence Class Testing: Equivalence Classes, Weak Normal Vs Strong Normal	SSS
	2	Equivalence Class Testing, Weak Robust Vs Strong Robust Equivalence Class Testing,	
	3	Equivalence Class Test Cases for the Triangle Problem, Equivalence Class Test Cases for the Next Date Function and	
3 <sup>rd</sup> week of MAY 25	1	Equivalence Class Test Cases for the Commission Problem,	SSS
	2	Guidelines for Equivalence Class Testing. Decision Table Based Testing: Decision tables,	
	3	Test cases for the triangle problem, Test cases for the Next Date function, Test cases for	
4th week of MAY25	1	the commission problem, Guidelines and observations. Data flow Testing: Definition Use	SSS
	2	Testing, Example- The Commission Problem, Slice-Based Testing,	

	3	Guidelines and Observations.	
1 <sup>ST</sup> week of JUNE 25	1	Levels of Testing: The SATM System, Structural and Behavioural Insights.	SSS
	2	Integration Testing: A Closer Look at the SATM System, Decomposition-Based Integration,	
	3	TopDown Vs Bottom-Up Integration, Sandwich Integration, Call Graph-Based Integration,	
2nd week of JUNE 25	1	Pair wise Integration, Neighborhood Integration, Path-Based Integration.	SSS
	2	System Testing: Threads, Basic concepts for requirements specification, Finding threads, Structural Strategies	
	3	<b>INTERNALS</b>	
3 <sup>rd</sup> week of JUNE 25	1	functional strategies for thread testing,	SSS
	2	Interaction Testing: A Taxonomy of Interactions, Static Interaction in a Single Processor,	
	3	Static Interaction in Multiple Processors, Dynamic Interaction in a Single Processor,	
4th week of JUNE 25	1	Dynamic Interaction in Multiple Processors, Client-Server Testing.	SSS
	2	Object Oriented Testing: Issues in Object Oriented Testing, Implication of Composition	
	3	Encapsulation, Implications of Inheritance, Implications of Polymorphism, GUI Testing, Object-Oriented Integration Testing.	
1 <sup>st</sup> week of JULY 25	1	Exploratory Testing: The context-driven school, Exploring exploratory testing,	SSS
	2	Exploring a familiar example, Exploratory and context-driven testing observations.	
	3	Model-Based Testing: Testing based on models, Appropriate models, Use case-based testing,	
2nd week of JUNE 25	1	Commercial tool support for model-based testing. Test-Driven Development: Test-then-code cycles,	SSS
	2	Automated test execution, Java and JUnit example, Remaining questions, Pros, cons, and open questions of TDD, Retrospective on MDD versus TDD,	
	3	Software Testing Excellence: Craftsmanship, Best practice of software testing,	
3 <sup>rd</sup> week of JUNE 25	1	Top 10 best practices for software testing excellence.	SSS
	2	<b>Test</b>	
	3	<b>Revision</b>	

# Vijaya College, RV Road, Bengaluru-560004

Department of Computer science

NAAC criteria-1: CURRICULAR ASPECTS for the academic year 2024-2025

1. Academic Planner with unitisation of the entire syllabus (on hourly basis)

## EVEN SEMESTER

Semester	IV	Paper	CA-C17T
Name of the Department	BCA	Subject Title	THE DESIGN AND ANALYSIS OF ALGORITHMS
Week/Month & Date (Preferably)	Day	Portions Planned	Teacher DIVYA S R
2nd week of FEB 2025	1	Introduction: Algorithms, Fundamentals of Algorithmic Problem Solving,	SRD
	2	Important Problem Types,	SRD
	3	Fundamental Data Structures.	SRD
3rd week of FEB 2025	1	Fundamentals of the Analysis of Algorithm Efficiency:	SRD
	2	TheAnalysis Framework,	SRD
	3	Asymptotic Notations and	SRD
4 <sup>th</sup> week of FEB 2025	1	Basic Efficiency Classes,	SRD
	2	Mathematical Analysis of Non-recursive and Recursive Algorithms, Empirical Analysis of Algorithms	SRD
	3	Brute Force Method: Selection Sort and Bubble Sort,	SRD
1 <sup>st</sup> week of March 2025	1	Sequential Search, Brute-Force String Matching,	SRD
	2	Exhaustive Search, Depth-First Search and Breadth-First Search.	SRD
	3	Decrease and Conquer: Insertion Sort,	SRD

2 <sup>nd</sup> week of March 2025	1	Topological Sorting, Algorithms for Generating Combinatorial Objects	SRD
	2	, Decreaseby-a-Constant-Factor Algorithms.	SRD
	3	Divide and Conquer: Merge Sort,	SRD
3 <sup>rd</sup> week of March 2025	1	Quick Sort,	SRD
	2	Binary Tree	SRD
	3	Traversals and Related Properties, Strassen's Matrix Multiplication.	SRD
4 <sup>th</sup> week of March 2025	1	Space and Time Tradeoffs: Sorting by Counting	SRD
	2	, Input Enhancement in String Matching, Hashing.	SRD
	3	Dynamic programming: Binomial Coefficient,	SRD
1 <sup>st</sup> week of April 2025	1	Principle of Optimality, Optimal Binary Search	SRD
	2	Trees, ,	SRD
	3	Knapsack Problem and Memory Functions	SRD
2 <sup>nd</sup> week of April 2025	1	Internal Assesment	
	2		
	3		
3 <sup>rd</sup> week of April 2025	1	Warshall's and Floyd's Algorithms.	SRD
	2	Greedy Technique: Prim's Algorithm	SRD
	3	Kruskal's Algorithm	SRD
4 <sup>th</sup> week of April 2025	1	Dijkstra's Algorithm,	SRD
	2	, , Huffman Trees.	SRD
	3	Limitations of Algorithm Power: Lower-Bound Arguments,	SRD
5 <sup>th</sup> week of	1	Decision Trees, P, NP and NP	SRD

April/1 <sup>st</sup> week of May 2025	2	Complete Problems .Coping with the Limitations of Algorithm Power:	SRD
	3	Back Tracking: n Queens problem,	SRD
2 <sup>nd</sup> week of May 2025	1	Hamiltonian Circuit Problem, Subset-Sum Problem.	SRD
	2	Branch-and-Bound: Assignment Problem,	SRD
	3	Knapsack Problem,	SRD
3 <sup>rd</sup> week of May 2025	1	Traveling Salesman Problem.	SRD
	2	REVISION AND SAMPLE PAPERS	SRD
	3	REVISION	SRD
4 <sup>th</sup> week of May 2025	1	REVISION	SRD
	2	REVISION AND SAMPLE PAPERS SOLVED	SRD

# Vijaya College, RV Road, Bengaluru-560004

Department of Computer science

NAAC criteria-1: CURRICULAR ASPECTS for the academic year 2024-2025

1. Academic Planner with unitisation of the entire syllabus (on hourly basis)

## EVEN SEMESTER

Semester	IV	Paper	CA-C17T
Name of the Department	BCA	Subject Title	THE DESIGN AND ANALYSIS OF ALGORITHMS
Week/Month & Date (Preferably)	Day	Portions Planned	Teacher VINUTHA V
2nd week of FEB 2025	1	Introduction: Algorithms, Fundamentals of Algorithmic Problem Solving,	VV
	2	Important Problem Types,	VV
	3	Fundamental Data Structures.	VV
3rd week of FEB 2025	1	Fundamentals of the Analysis of Algorithm Efficiency:	VV
	2	TheAnalysis Framework,	VV
	3	Asymptotic Notations and	VV
4 <sup>th</sup> week of FEB 2025	1	Basic Efficiency Classes,	VV
	2	Mathematical Analysis of Non-recursive and Recursive Algorithms, Empirical Analysis of Algorithms	VV
	3	Brute Force Method: Selection Sort and Bubble Sort,	VV
1 <sup>st</sup> week of March 2025	1	Sequential Search, Brute-Force String Matching,	VV
	2	Exhaustive Search, Depth-First Search and Breadth-First Search.	VV
	3	Decrease and Conquer: Insertion Sort,	VV

2 <sup>nd</sup> week of March 2025	1	Topological Sorting, Algorithms for Generating Combinatorial Objects	VV
	2	, Decreaseby-a-Constant-Factor Algorithms.	VV
	3	Divide and Conquer: Merge Sort,	VV
3 <sup>rd</sup> week of March 2025	1	Quick Sort,	VV
	2	Binary Tree	VV
	3	Traversals and Related Properties, Strassen's Matrix Multiplication.	VV
4 <sup>th</sup> week of March 2025	1	Space and Time Tradeoffs: Sorting by Counting	VV
	2	, Input Enhancement in String Matching, Hashing.	VV
	3	Dynamic programming: Binomial Coefficient,	VV
1 <sup>st</sup> week of April 2025	1	Principle of Optimality, Optimal Binary Search	VV
	2	Trees, ,	VV
	3	Knapsack Problem and Memory Functions	VV
2 <sup>nd</sup> week of April 2025	1	Internal Assesment	
	2		
	3		
3 <sup>rd</sup> week of April 2025	1	Warshall's and Floyd's Algorithms.	VV
	2	Greedy Technique: Prim's Algorithm	VV
	3	Kruskal's Algorithm	VV
4 <sup>th</sup> week of April 2025	1	Dijkstra's Algorithm,	VV
	2	, , Huffman Trees.	VV
	3	Limitations of Algorithm Power: Lower-Bound Arguments,	VV
5 <sup>th</sup> week of	1	Decision Trees, P, NP and NP	VV

April/1 <sup>st</sup> week of May 2025	2	Complete Problems .Coping with the Limitations of Algorithm Power:	VV
	3	Back Tracking: n Queens problem,	VV
2 <sup>nd</sup> week of May 2025	1	Hamiltonian Circuit Problem, Subset-Sum Problem.	VV
	2	Branch-and-Bound: Assignment Problem,	VV
	3	Knapsack Problem,	VV
3 <sup>rd</sup> week of May 2025	1	Traveling Salesman Problem.	VV
	2	REVISION AND SAMPLE PAPERS	VV
	3	REVISION	VV
4 <sup>th</sup> week of May 2025	1	REVISION	VV
	2	REVISION AND SAMPLE PAPERS SOLVED	VV

# Vijaya College,R.V.Road, Bengaluru-560004

Department of Computer Science

For the academic year 2024-25

## EVEN SEMESTER

Academic Planner with unitization of the entire syllabus per hour

Total No of Hours: 48

No. of hours/week: 03

Name of the Department	Computer Science	Subject Title: CA- C18T INTERNET TECHNOLOGIES	Teacher
Semester	IV BCA B SEC		HML
Week/Month	Day		Teacher
	1	Syllabus discussion - Course outcome explained	HML
	2	<b>UNIT - 1 Interconnected Network</b> : INTERconnected NETwork: Internet: The Giant Wide Area Network, Communicating over the Internet,	HML
	3	Accessing the Internet, Internet Organizations,	HML
	1	Cyber Ethics	HML
	2	Electronic Mail (E-Mail), File Transfer	HML
	3	Real-Time User Communication,	HML
	1	Remote Login, Usenet,	HML
	2	World Wide Web: The Web	HML
	3	Web Terminology,	HML
	1	World Wide Web Challenges	HML
	2	, The Working Web,	HML

	3	, Internet Applications: Internet services,	HML
	1	<b>UNIT - II</b> Hypertext Transfer Protocol (HTTP):HTTP, HTTP Version,	HML
	2	HTTP connections, HTTP Communication,	HML
	3	Hypertext Transfer Protocol Secure, Hypertext Transfer Protocol State Retention: Cookies, Hypertext Transfer Protocol Cache,	HML
3 <sup>rd</sup> week of June 2022	1	Evolution of Web: The Generations of Web, Web 1.0,	HML
	2	Web 2.0, Web 3.0,	HML
	3	Big Data: A Special Discussion,	HML
4 <sup>th</sup> week of June 2022	1	Web IR: Information Retrieval on the Web: Web Information Retrieval,	HML
	2	Web Information Retrieval Tools,	HML
	3	Web Information Retrieval Architecture (Search Engine Architecture),	HML
1 <sup>st</sup> week of July 2022	1	Web Information Retrieval Performance Metrics,	HML
	2	Web Information Retrieval Models	HML
	3	Google PageRank.	HML
2 <sup>nd</sup> week of July 2022	1	<b>UNIT - III</b> Web Development Basics: Elements of Web Development ,	HML
	2	Client-Side and Server-Side Scripting,	HML
	3	Model-View-Controller Architecture for Web Application Development,	HML
3 <sup>rd</sup> week of July 2022	1	Client-Side Technologies: HTML: Hypertext Markup Language,	HML

	2	CSS: Cascading Style Sheets,	HML
	3	JavaScript,	HML
4 <sup>th</sup> week of July 2022	1	Bootstrap Framework,	HML
	2	AngularJS Framework,	HML
	3	Server-Side Technologies: Server-Side,	HML
1 <sup>st</sup> week of Aug 2022	1	Scripting,	HML
	2	Personal Home Pages,	HML
	3	Node.js: Server-Side JavaScript.	HML
2 <sup>nd</sup> week of Aug 2022	1	<b>UNIT - IV</b> Web Application Frameworks:Django,	HML
	2	Explanation on Django	HML
	3	Ruby on Rails	HML
	1	Ruby on Rails,	HML
	2	Web Databases: Web Database,	HML
	3	Structured Query Language: Relational Databases,	HML
	1	NoSQL Databases: Non-relational and Distributed Data,	HML
	2	NoSQL Databases: Non-relational and Distributed Data,	HML
	3	Understanding Popular Databases.	HML
3 <sup>rd</sup> week of Aug 2022	1	Research Trends on the Web: Contextual Information Retrieval,	HML
	2	Web Mining.	HML
	3	Web Mining.	HML
	3	Doubt clarifying class	HML

	4	Doubt clarifications	HML
	5	Doubt clarifying class	HML
4 <sup>th</sup> week of Aug	1	Solving model /previous question paper	HML
	2	Solving model /previous question paper	HML
	3	Solving model /previous question paper	HML
	4	Solving model /previous question paper	HML
	5	Preparatory exam	HML

# Vijaya College,R.V.Road, Bengaluru-560004

Department of Computer Science

For the academic year 2024-25

## EVEN SEMESTER

Academic Planner with unitization of the entire syllabus per hour

Name of the Department	Computer Science	Subject Title	Teacher
Semester	VI BSc		HML
Week/Month	Day		Teacher
2 <sup>nd</sup> week of may 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
3 <sup>RD</sup> week of may 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
4 <sup>TH</sup> week of may 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML

1 <sup>ST</sup> week of June 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
2 <sup>nd</sup> week of June 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
3 <sup>rd</sup> week of June 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
4 <sup>th</sup> week of June 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
1 <sup>st</sup> week of July 2022	1		HML
	2		HML
	3		HML

	4		HML
	5		HML
2 <sup>nd</sup> week of july 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
3 <sup>rd</sup> week of July 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
4 <sup>th</sup> week of July 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
1 <sup>st</sup> week of Aug 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML

2 <sup>nd</sup> week of Aug 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
3 <sup>rd</sup> week of Aug 2022	1		HML
	2		HML
	3	Doubt clarifying class	HML
	4	Doubt clarifications	HML
	5	Doubt clarifying class	HML
4 <sup>th</sup> week of Aug	1	Solving model /previous question paper	HML
	2	Solving model /previous question paper	HML
	3	Solving model /previous question paper	HML
	4	Solving model /previous question paper	HML
	5	Preparatory exam	HML

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Department of Computer Science

CURRICULAR ASPECTS for the academic year 2024-2025

Academic Planner with unitisation of the Entire Syllabus

Name of the Department	Computer Science	Subject Title	Teacher
Semester	II BCA	24BCA21-:Data Structures	Shilpakala .S
Week/Month & Date (Preferably)	Day	Portions Planned for 1 hour	
2 <sup>nd</sup> week of Feb.	1	Unit-I Introduction and Overview: Definition, Elementary data organization,	SH
	2	Data Structures, data structures operations,	SH
	3	Abstract data types, algorithms complexity, time-space tradeoff. Preliminaries: Mathematical notations and functions,	SH
3 <sup>rd</sup> week of Feb	1	Algorithmic notations, control structures, Complexity of algorithms,	SH
	2	asymptotic notations for complexity of algorithms. String Processing: Definition,	SH
	3	Storing Stings, String as ADT, String, Summary and Discussion on Important questions	SH
4th week of Feb	1	Unit-II Arrays: Definition, Linear arrays,	SH
	2	arrays as ADT, Representation of Linear Arrays in Memory,	SH
	3	Traversing Linear arrays, Inserting and deleting, Sorting: Bubble sort, shell sort, quick sort	SH
1st week of Mar	1	Insertion sort, Selection sort	SH
	2	Searching: Linear Search, Binary search	SH
	3	Multidimensional arrays Matrices and Sparse matrices	SH
2nd week of Mar	1	Linked list: Definition, Representation of Singly linked list in memory,	SH
	2	Traversing a Singly linked list, Searching a Singly linked list	SH
	3	Memory allocation, Garbage collection, Insertion into a	SH

		singly linked list,	
<b>3rd week of Mar</b>	1	Deletion from a singly linked list; Deletion from Doubly linked list,	SH
	2	Header linked list, Circular linked list.	SH
	3	Unit-III Stacks – Definition, Array representation of stacks,	SH
<b>4th week of Mar</b>	1	Linked representation of stacks, Stack as ADT,	SH
	2	Arithmetic Expressions: Polish Notation, Application of Stacks, Recursion,	SH
	3	Towers of Hanoi, Implementation of recursive procedures by stack. Queues – Definition, Array representation of queue,	SH
<b>1st week of Apr</b>	1	Linked list representation of queues	SH
	2	Types of queue: Simple queue,	SH
	3	Circular queue, Double ended queue ,	SH
<b>2nd week of Apr</b>	1	Priority queue, Operations on Queues, Applications of queues.	SH
	2	Unit-IV Binary Trees: Definitions, Tree Search	SH
	3	Traversal of Binary Tree, Tree Sort,	SH
<b>3rd week of Apr</b>	1	Building a Binary Search Tree, Height Balance: AVL Trees	SH
	2	Contiguous Representation of Binary Trees	SH
	3	Heaps, Red Black Tree: Insertion and Deletion,	SH
<b>4th week of Apr</b>	1	External Searching: B-Trees, Applications of Trees	SH
	2	Graphs: Graph theory terminology, Graph Traversal,	SH
	3	Mathematical Back ground, Computer Representation.	SH
<b>1st week of May</b>	1	Hashing: Hash Table ADT, understanding Hashing,	SH
	2	Components of Hashing ,Hash Table	SH
	3	Hash Function,Hashing Techniques,	SH
<b>2nd week of May</b>	1	collisions,	SH
	2	collision resolution techniques	SH
	3	Model Question paper discussion	SH
<b>3<sup>rd</sup> week of May</b>	1	Class Test	SH

	2	Model Question paper discussion	SH
	3	Revision or class adjustments due to holidays ,internal test etc	SH
<b>4<sup>th</sup> week of May</b>			SH
			SH
			SH

# Vijaya College, RV Road, Bengaluru-560004

Department of Computer Science

CURRICULAR ASPECTS for the academic year 2024-2025

Academic Planner with unitisation of the Entire Syllabus

Name of the Department	Computer Science	Subject Title	Teacher
Semester	II BCA	24BCA21-:Data Structures	Shilpakala .S
Week/Month & Date (Preferably)	Day	Portions Planned for 1 hour	
2 <sup>nd</sup> week of Feb.	1	Unit-I Introduction and Overview: Definition, Elementary data organization,	SH
	2	Data Structures, data structures operations,	SH
	3	Abstract data types, algorithms complexity, time-space tradeoff. Preliminaries: Mathematical notations and functions,	SH
3 <sup>rd</sup> week of Feb	1	Algorithmic notations, control structures, Complexity of algorithms,	SH
	2	asymptotic notations for complexity of algorithms. String Processing: Definition,	SH
	3	Storing Stings, String as ADT, String, Summary and Discussion on Important questions	SH
4th week of Feb	1	Unit-II Arrays: Definition, Linear arrays,	SH
	2	arrays as ADT, Representation of Linear Arrays in Memory,	SH
	3	Traversing Linear arrays, Inserting and deleting, Sorting: Bubble sort, shell sort, quick sort	SH
1st week of Mar	1	Insertion sort, Selection sort	SH
	2	Searching: Linear Search, Binary search	SH
	3	Multidimensional arrays Matrices and Sparse matrices	SH
2nd week of Mar	1	Linked list: Definition, Representation of Singly linked list in memory,	SH
	2	Traversing a Singly linked list, Searching a Singly linked list	SH
	3	Memory allocation, Garbage collection, Insertion into a	SH

		singly linked list,	
<b>3rd week of Mar</b>	1	Deletion from a singly linked list; Deletion from Doubly linked list,	SH
	2	Header linked list, Circular linked list.	SH
	3	Unit-III Stacks – Definition, Array representation of stacks,	SH
<b>4th week of Mar</b>	1	Linked representation of stacks, Stack as ADT,	SH
	2	Arithmetic Expressions: Polish Notation, Application of Stacks, Recursion,	SH
	3	Towers of Hanoi, Implementation of recursive procedures by stack. Queues – Definition, Array representation of queue,	SH
<b>1st week of Apr</b>	1	Linked list representation of queues	SH
	2	Types of queue: Simple queue,	SH
	3	Circular queue, Double ended queue ,	SH
<b>2nd week of Apr</b>	1	Priority queue, Operations on Queues, Applications of queues.	SH
	2	Unit-IV Binary Trees: Definitions, Tree Search	SH
	3	Traversal of Binary Tree, Tree Sort,	SH
<b>3rd week of Apr</b>	1	Building a Binary Search Tree, Height Balance: AVL Trees	SH
	2	Contiguous Representation of Binary Trees	SH
	3	Heaps, Red Black Tree: Insertion and Deletion,	SH
<b>4th week of Apr</b>	1	External Searching: B-Trees, Applications of Trees	SH
	2	Graphs: Graph theory terminology, Graph Traversal,	SH
	3	Mathematical Back ground, Computer Representation.	SH
<b>1st week of May</b>	1	Hashing: Hash Table ADT, understanding Hashing,	SH
	2	Components of Hashing ,Hash Table	SH
	3	Hash Function,Hashing Techniques,	SH
<b>2nd week of May</b>	1	collisions,	SH
	2	collision resolution techniques	SH
	3	Model Question paper discussion	SH
<b>3<sup>rd</sup> week of May</b>	1	Class Test	SH

	2	Model Question paper discussion	SH
	3	Revision or class adjustments due to holidays ,internal test etc	SH
<b>4<sup>th</sup> week of May</b>			SH
			SH
			SH

# Vijaya College,R.V.Road, Bengaluru-560004

## Department of Computer Science

For the academic year 2024-25

Academic Planner with unitization of the entire syllabus per hour

Name of the Department	Computer Science	Subject Title	Teacher
Semester	II sem BCA 'B' Sec	DATA STRUCTURES-(24BCA21)- SEP	SOWMYA S
Week/Month	Day/Hour	Portions Planned for 1 hour	Teacher
2 <sup>nd</sup> week of Feb	1	Introduction and Overview: Definition, Elementary data organization, Data Structures, data Structures operations.	SS
	2	Abstract data types, algorithms complexity, time-space trade off.	
	3	Preliminaries: Mathematical notations and functions, Algorithmic notations, control structures.	
3 <sup>rd</sup> week of Feb	1	Complexity of algorithms, asymptotic notations for complexity of algorithms.	
	2	Introduction to Strings, Storing String, Character Data Types.	
	3	String Operations, word processing.	
4 <sup>th</sup> week of Feb	1	Introduction to pattern matching algorithms.	
	2	Arrays: Definition, Linear arrays.	
	3	arrays as ADT, Representation of Linear Arrays in Memory	
1 <sup>st</sup> week of March	1	Traversing Linear arrays, Inserting and deleting.	
	2	Multi-dimensional arrays, Matrices and Sparse Matrices.	

	3	searching and sorting techniques using array.	
2 <sup>nd</sup> week of March	1	searching and sorting techniques using array.	
	2	searching and sorting techniques using array.	
	3	searching and sorting techniques using array.	
3 <sup>rd</sup> week of March	1	Linked list: Definition, Representation of Singly Linked List in memory, Traversing a Singly linked list.	
	2	Searching in a Singly linked list.	
	3	Memory allocation, Garbage collection.	
4 <sup>th</sup> week of March	1	Insertion into a singly linked list, Deletion from a singly linked list.	
	2	Doubly linked list.	
	3	Header linked list.	
5 <sup>th</sup> week of Mar/1 <sup>st</sup> week of April	1	Circular linked list.	
	2	Stacks: Definition, Array representation of stacks.	
	3	Linked representation of stacks.	
2 <sup>nd</sup> week of April	1	Stack as ADT.	
	2	Arithmetic Expressions: Polish Notation.	
	3	Conversion of infix expression to postfix expression,	
	1	Evaluations of Post fix expression, Application of Stacks.	

3rd week of April	2	Recursion, Towers of Hanoi.		
	3	Implementation of recursive procedures by stack.		
4 <sup>th</sup> week of April	1	INTERNALS		
	2	INTERNALS		
	3	INTERNALS		
5 <sup>th</sup> week of April/1 <sup>st</sup> week of May	1	Queues: Definition, Array representation of queue.		
	2	Linked list representation of queues. Types of queue: Simple queue.		
	3	Circular queue, Double-ended queue.		
2 <sup>nd</sup> week of May	1	Priority queue, Operations on Queues, Applications of queues.		SS
	2	Binary Trees: Definitions, Tree Search.		
	3	Traversal of Binary Tree, Tree Sort.		
3rd week of May	1	Building a Binary Search Tree, Height Balance: AVL Trees.		
	2	Contiguous Representation of Binary Trees: Heaps.		
	3	Red Black Tree: Insertion and Deletion		
4 <sup>th</sup> week of May	1	External Searching: B-Trees, Applications of Trees.		
	2	Graphs: Mathematical Back ground, Computer Representation, Graph Traversal.		
	3	Hashing: Hash Table ADT, understanding Hashing.		
5 <sup>th</sup> week of May/1 <sup>st</sup> week of June	1	Components of Hashing, Hash Table.		
	2	Hash Function, Hashing Techniques		
	3	collisions, collision resolution techniques.		
2 <sup>nd</sup> week of June	1	Revision	SS	

	2	Revision	
	3	Solve Model Question Paper	

# Vijaya College, R.V.Road, Bengaluru-560004

Department of Computer Science

For the academic year 2024-25

## EVEN SEMESTER

Academic Planner with unitization of the entire syllabus per hour

Total No of Hours: 48

No. of hours/week: 03

Name of the Department	Computer Science	Subject Title: CA- C18T INTERNET TECHNOLOGIES	Teacher
Semester	IV BCA A SEC		Shrinidhi Kulkarni, Shilpakala S
Week/Month	Day		Teacher
3 <sup>rd</sup> week of February 2025	1	Syllabus discussion – Course outcome explained	SH
	2	<b>UNIT – 1 Interconnected Network:</b> INTERconnected NETwork: Internet: The Giant Wide Area Network, Communicating over the Internet,	SH
	3	Accessing the Internet, Internet Organizations,	SH
4 <sup>th</sup> week of February 2025	1	Cyber Ethics	SH
	2	Electronic Mail (E-Mail), File Transfer	SH
	3	Real-Time User Communication,	SH
1 <sup>st</sup> week of March 2025	1	Remote Login, Usenet,	SH
	2	World Wide Web: The Web	SH
	3	Web Terminology,	SH
2 <sup>nd</sup> week of March 2025	1	World Wide Web Challenges	SH
	2	The Working Web,	SH

	3	Internet Applications: Internet services,	SH
3 <sup>rd</sup> week of March 2025	1	<b>UNIT - II</b> Hypertext Transfer Protocol (HTTP): HTTP, HTTP Version,	SPK
	2	HTTP connections, HTTP Communication,	SPK
	3	Hypertext Transfer Protocol Secure, Hypertext Transfer Protocol State Retention: Cookies, Hypertext Transfer Protocol Cache,	SPK
4 <sup>th</sup> week of March 2025	1	Evolution of Web: The Generations of Web, Web 1.0,	SPK
	2	Web 2.0, Web 3.0,	SPK
	3	Big Data: A Special Discussion,	SPK
1 <sup>st</sup> week of April 2025	1	Web IR: Information Retrieval on the Web: Web Information Retrieval,	SPK
	2	Web Information Retrieval Tools,	SPK
	3	Web Information Retrieval Architecture (Search Engine Architecture),	SPK
2 <sup>nd</sup> week of April 2025	1	Web Information Retrieval Performance Metrics,	SPK
	2	Web Information Retrieval Models	SPK
	3	Google PageRank.	SPK
3 <sup>rd</sup> week of April 2025	1	<b>UNIT - III</b> Web Development Basics: Elements of Web Development,	SPK
	2	Client-Side and Server-Side Scripting,	SPK
	3	Model-View-Controller Architecture for Web Application Development,	SPK
4 <sup>th</sup> week of April 2025	1	Client-Side Technologies: HTML: Hypertext Markup Language,	SPK
	2	CSS: Cascading Style Sheets,	SPK
	3	JavaScript,	SPK

1 <sup>st</sup> week of May 2025	1	Bootstrap Framework,	SPK
	2	AngularJS Framework,	SPK
	3	Server-Side Technologies: Server-Side,	SPK
2 <sup>nd</sup> week of May 2025	1	Scripting,	SPK
	2	Personal Home Pages,	SPK
	3	Node.js: Server-Side JavaScript.	SPK
3 <sup>rd</sup> week of May 2025	1	<b>UNIT – IV</b> Web Application Frameworks:Django,	SH
	2	Explanation on Django	SH
	3	Ruby on Rails	SH
4 <sup>th</sup> week of May 2025	1	Ruby on Rails,	SH
	2	Web Databases: Web Database,	SH
	3	Structured Query Language: Relational Databases,	SH
1 <sup>st</sup> week of June 2025	1	NoSQL Databases: Non-relational and Distributed Data,	SH
	2	NoSQL Databases: Non-relational and Distributed Data,	SH
	3	Understanding Popular Databases.	SH
2 <sup>nd</sup> week of June 2025	1	Research Trends on the Web: Contextual Information Retrieval,	SH
	2	Web Mining.	SH
	3	Web Mining.	SH
3 <sup>rd</sup> week of June 2025	1	Doubt clarifying class	SH
	2	Doubt clarifications	SH
	3	Doubt clarifying class	SH
4 <sup>th</sup> week of June	1	Solving model /previous question paper	SPK

2025	2	Solving model /previous question paper	SPK
	3	Solving model /previous question paper	SPK
1 <sup>st</sup> week of July 2025	1	Solving model /previous question paper	SPK
	2	Preparatory exam	SPK

# Vijaya College,R.V.Road, Bengaluru-560004

Department of Computer Science

For the academic year 2024-25

## EVEN SEMESTER

Academic Planner with unitization of the entire syllabus per hour

Name of the Department	Computer Science	Subject Title	Teacher
Semester	VI BSc		HML
Week/Month	Day		Teacher
2 <sup>nd</sup> week of may 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
3 <sup>RD</sup> week of may 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
4 <sup>TH</sup> week of may 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML

1 <sup>ST</sup> week of June 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
2 <sup>nd</sup> week of June 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
3 <sup>rd</sup> week of June 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
4 <sup>th</sup> week of June 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
1 <sup>st</sup> week of July 2022	1		HML
	2		HML
	3		HML

	4		HML
	5		HML
2 <sup>nd</sup> week of july 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
3 <sup>rd</sup> week of July 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
4 <sup>th</sup> week of July 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
1 <sup>st</sup> week of Aug 2022	1		HML
	2		HML
	3		HML
	4		HML
	5		HML
2 <sup>nd</sup> week of Aug	1		HML

2022	2		HML
	3		HML
	4		HML
	5		HML
3 <sup>rd</sup> week of Aug 2022	1		HML
	2		HML
	3	Doubt clarifying class	HML
	4	Doubt clarifications	HML
	5	Doubt clarifying class	HML
4 <sup>th</sup> week of Aug	1	Solving model /previous question paper	HML
	2	Solving model /previous question paper	HML
	3	Solving model /previous question paper	HML
	4	Solving model /previous question paper	HML
	5	Preparatory exam	HML

# Vijaya College, RV Road, Bengaluru-560004

## Department of Computer Science

Academic Planner with unitisation of the Entire Syllabus (on hourly basis)

Name of the Department	Computer Science	Subject Title	Teacher (ALOK & BEENA)
Semester	IV	CA-C16T: SOFTWARE ENGINEERING	“B”section
Week/Month	Day	Portions Planned for 1 hour	
2nd week of FEB 2025	1	<b>UNIT – I Introduction to Software Engineering:</b> Evolution and impact of Software engineering	AL
	2	Software life cycle models: Waterfall, prototyping	AL
	3	Evolutionary, and Spiral models	AL
3rd week of FEB 2025	1	Feasibility study	AL
	2	Functional and Non-functional requirements	AL
	3	Functional and Non-functional requirements	AL
4 <sup>th</sup> week of FEB 2025	1	Requirements gathering	AL
	2	Requirements analysis and specification	AL
	3	<b>Agile development:</b> Agile, Agility and cost of change	BN
1 <sup>st</sup> week of March 2025	1	Agile Process	BN
	2	Extreme programming	BN
	3	Other agile process models	BN
2 <sup>nd</sup> week of March 2025	1	<b>UNIT – II Formal Modeling and verification:</b> The cleanroom strategy	AL
	2	Functional specification; Cleanroom design	AL
	3	Cleanroom testing; Formal methods: Concepts	AL
3 <sup>rd</sup> week of March 2025	1	Applying mathematical notation for formal specification; Formal specification languages	AL
	2	Software Project Management: The management Spectrum	AL
	3	The management of people, product, process and project	AL
4 <sup>th</sup> week of	1	The W5HH Principle; Critical Practices	AL

March 2025	2	<b>Software testing strategies:</b> A Strategic Approach to Software Testing, Test Strategies for Conventional Software	AL
	3	Test Strategies for Object-Oriented Software	AL
1 <sup>st</sup> week of April 2025	1	Test Strategies for WebApps, System Testing	AL
	2	Software Testing Fundamentals, White-Box Testing, Black-Box Testing	AL
	3	Assignment and Discussion on above topics	AL
2 <sup>nd</sup> week of April 2025	1	<b>UNIT – III</b> Software Project Scheduling: Basic concepts and principles of project scheduling;	AL
	2	Defining task set and task network; Scheduling;	AL
	3	Earned value analysis. Risk Management:	AL
3 <sup>rd</sup> week of April 2025	1	Reactive versus proactive strategies; Software risks;	AL
	2	risk identification; Risk projection; Risk refinement	AL
	3	Risk mitigation, monitoring and management;	AL
4 <sup>th</sup> week of April 2025	1	The RMMM plan. Maintenance and Reengineering:	AL
	2	Software maintenance; Software supportability;	AL
	3	Reengineering; Business process reengineering;	AL
5 <sup>th</sup> week of April/1 <sup>st</sup> week of May 2025	1	Software reengineering; Reverse engineering;	AL
	2	Restructuring; Forward engineering;	AL
	3	The economics of reengineering.	AL
2 <sup>nd</sup> week of May 2025	1	<b>UNIT - IV</b> <b>Software Process Improvement (SPI):</b> Approaches to SPI;	BN
	2	Maturity models; The SPI process;	BN
	3	The CMMI; The People CMM;	BN
3 <sup>rd</sup> week of May 2025	1	Other SPI frameworks: SPICE, Bootstrap,	BN
	2	PSP and TSP, ISO;	BN
	3	SPI return on investment.	BN
4 <sup>th</sup> week of May 2025	1	Software Configuration Management (SCM): Basic concepts;	BN
	2	CM repository; The SCM process;	BN
	3	Configuration management for web applications	BN

5 <sup>th</sup> week of May 2025	1	SCM standards.	BN
	2	Summary discussion	BN
	3	Assignment and Discussion on above topics	AL

# Vijaya College, RV Road, Bengaluru-560004

## Department of Computer Science

Academic Planner with unitisation of the Entire Syllabus (on hourly basis)

Name of the Department	Computer Science	Subject Title	Teacher (YESHASWINI.S)
Semester	IV	CA-C16T: SOFTWARE ENGINEERING	"A"section
Week/Month	Day	Portions Planned for 1 hour	
2nd week of FEB 2025	1	<b>UNIT – I Introduction to Software Engineering:</b> Evolution and impact of Software engineering	YS
	2	Software life cycle models: Waterfall, prototyping	YS
	3	Evolutionary, and Spiral models	YS
3rd week of FEB 2025	1	Feasibility study	YS
	2	Functional and Non-functional requirements	YS
	3	Functional and Non-functional requirements	YS
4 <sup>th</sup> week of FEB 2025	1	Requirements gathering	YS
	2	Requirements analysis and specification	YS
	3	<b>Agile development:</b> Agile, Agility and cost of change	YS
1 <sup>st</sup> week of March 2025	1	Agile Process	YS
	2	Extreme programming	YS
	3	Other agile process models	YS
2 <sup>nd</sup> week of March 2025	1	<b>UNIT – II Formal Modeling and verification:</b> The cleanroom strategy	YS
	2	Functional specification; Cleanroom design	YS
	3	Cleanroom testing; Formal methods: Concepts	YS
3 <sup>rd</sup> week of March 2025	1	Applying mathematical notation for formal specification; Formal specification languages	YS
	2	Software Project Management: The management Spectrum	YS
	3	The management of people, product, process and project	YS
4 <sup>th</sup> week of	1	The W5HH Principle; Critical Practices	YS

March 2025	2	<b>Software testing strategies: A Strategic Approach to Software Testing, Test Strategies for Conventional Software</b>	YS
	3	Test Strategies for Object-Oriented Software	YS
1 <sup>st</sup> week of April 2025	1	Test Strategies for WebApps, System Testing	YS
	2	Software Testing Fundamentals, White-Box Testing, Black-Box Testing	YS
	3	Assignment and Discussion on above topics	YS
2 <sup>nd</sup> week of April 2025	1	<b>UNIT – III</b> Software Project Scheduling: Basic concepts and principles of project scheduling;	YS
	2	Defining task set and task network; Scheduling;	YS
	3	Earned value analysis. Risk Management:	YS
3 <sup>rd</sup> week of April 2025	1	Reactive versus proactive strategies; Software risks;	YS
	2	risk identification; Risk projection; Risk refinement	YS
	3	Risk mitigation, monitoring and management;	YS
4 <sup>th</sup> week of April 2025	1	The RMMM plan. Maintenance and Reengineering:	YS
	2	Software maintenance; Software supportability;	YS
	3	Reengineering; Business process reengineering;	YS
5 <sup>th</sup> week of April/1 <sup>st</sup> week of May 2025	1	Software reengineering; Reverse engineering;	YS
	2	Restructuring; Forward engineering;	YS
	3	The economics of reengineering.	YS
2 <sup>nd</sup> week of May 2025	1	<b>UNIT - IV</b> <b>Software Process Improvement (SPI): Approaches to SPI;</b>	YS
	2	Maturity models; The SPI process;	YS
	3	The CMMI; The People CMM;	YS
3 <sup>rd</sup> week of May 2025	1	Other SPI frameworks: SPICE, Bootstrap,	YS
	2	PSP and TSP, ISO;	YS
	3	SPI return on investment.	YS
4 <sup>th</sup> week of May 2025	1	Software Configuration Management (SCM): Basic concepts;	YS
	2	CM repository; The SCM process;	YS
	3	Configuration management for web applications	YS

5 <sup>th</sup> week of May 2025	1	SCM standards.	YS
	2	Summary discussion	YS
	3	Assignment and Discussion on above topics	YS

# Vijaya College, RV Road, Bengaluru-560004

Department of Computer Science

CURRICULAR ASPECTS for the academic year 2024-2025

Academic Planner with unitisation of the Entire Syllabus

Name of the Department	Computer Science	Subject Title	Teacher
Semester	II BCA	24BSC-CS-2: OBJECT ORIENTED PROGRAMMING USING JAVA	YESHASWINI .S
Week/Month & Date (Preferably)	Day	Portions Planned for 1 hour	
2 <sup>nd</sup> week of Feb.	1	<b>Unit-I</b> Introduction: Basics of object-oriented programming	YS
	2	comparison of procedure-oriented and object oriented programming paradigms;	YS
	3	Difference between C and Java Programming languages; Features of Java;	YS
3 <sup>rd</sup> week of Feb	1	Objects and classes in Java, Structure of a Java program; Data Types, variables and operators in java;	YS
	2	Java Development Kit (JDK); Built-in classes in Java; Math, Character, String, String Buffer and Scanner;	YS
	3	Wrapper classes; The abstract, static and final classes; Casting objects;	YS
4 <sup>th</sup> week of Feb	1	The instance of operator; Usage of this keyword; Arrays in Java.	YS
	2	<b>UNIT-2</b> Inheritance: Super and subclasses,	YS

	3	Types of Inheritance- single	YS
<b>1st week of Mar</b>	1	visibility modifiers	YS
	2	multiple, hierarchical and hybrid inheritance;	YS
	3	the interface concept in Java, Polymorphism	YS
<b>2nd week of Mar</b>	1	Compile time and run time polymorphisms	YS
	2	Method overloading and method overriding.	YS
	3	Package: Types of packages,	YS
<b>3rd week of Mar</b>	1	the util awt and swing packages;	YS
	2	Creating and importing user-defined packages	YS
	3	I/O programming: Standard I/O streams in Java;	YS
<b>4th week of Mar</b>	1	Types of streams - Base3d on the type of Operations and the type of file	YS
	2	<b>UNIT-3</b> Event handling: Major events in JAVA.	YS
	3	Two Event Handling mechanisms- Event classes and Event Listener Interfaces	YS
<b>1st week of Apr</b>	1	Mouse and keyboard events; GUI: Panels; Frames	YS
	2	Radio buttons; Labels; Text fields; Text areas	YS
	3	Combo boxes; Scroll bars; Sliders; Menu, Dialog boxes.	YS
<b>2nd week of Apr</b>	1	Applet programming: Comparison of applets and applications	YS
	2	Applet life cycle; Developing and running applets.	YS
	3	String handling: String construction, string length, special string operations	YS
<b>3rd week of</b>	1	character extraction, string comparison, modifying string and string buffers.	YS

<b>Apr</b>	2	<b>UNIT-4</b> Exception handling: Types of Java exception ,	YS
	3	checked and unchecked exceptions; Usage of trycatch-finally blocks.	YS
<b>4th week of Apr</b>	1	Multithreading: comparison of multithreading and multitasking	YS
	2	Life cycle of a thread	YS
	3	by extending the Thread class and by implementing the Runnable Interface	YS
<b>1st week of May</b>	1	two ways of creating thread Thread synchronization.	YS
	2	Advanced concepts: Collections in Java	YS
	3	Introduction to JavaBeans	YS
<b>2nd week of May</b>	1	CLASS TEST	YS
	2	Java security manager	YS
	3	Importance of generic programming in java with examples.	YS

# Vijaya College, RV Road, Bengaluru-560004

Department of Computer Science

CURRICULAR ASPECTS for the academic year 2024-2025

Academic Planner with unitisation of the Entire Syllabus

Name of the Department	Computer Science	Subject Title	Teacher
Semester	II BCA/A	24BSC-CS-2: OBJECT ORIENTED PROGRAMMING USING JAVA	ALOK UPADHYAY
Week/Month & Date (Preferably)	Day	Portions Planned for 1 hour	
2 <sup>nd</sup> week of Feb.	1	<b>Unit-I</b> Introduction: Basics of object-oriented programming	AL
	2	comparison of procedure-oriented and object oriented programming paradigms;	AL
	3	Difference between C and Java Programming languages; Features of Java;	AL
3 <sup>rd</sup> week of Feb	1	Objects and classes in Java, Structure of a Java program; Data Types, variables and operators in java;	AL
	2	Java Development Kit (JDK); Built-in classes in Java; Math, Character, String, String Buffer and Scanner;	AL
	3	Wrapper classes; The abstract, static and final classes; Casting objects;	AL
4 <sup>th</sup> week of Feb	1	The instance of operator; Usage of this keyword; Arrays in Java.	AL
	2	<b>UNIT-2</b> Inheritance: Super and subclasses,	AL

	3	Types of Inheritance- single	AL
<b>1st week of Mar</b>	1	visibility modifiers	AL
	2	multiple, hierarchical and hybrid inheritance;	AL
	3	the interface concept in Java, Polymorphism	AL
<b>2nd week of Mar</b>	1	Compile time and run time polymorphisms	AL
	2	Method overloading and method overriding.	AL
	3	Package: Types of packages,	AL
<b>3rd week of Mar</b>	1	the util awt and swing packages;	AL
	2	Creating and importing user-defined packages	AL
	3	I/O programming: Standard I/O streams in Java;	AL
<b>4th week of Mar</b>	1	Types of streams - Base3d on the type of Operations and the type of file	AL
	2	<b>UNIT-3</b> Event handling: Major events in JAVA.	AL
	3	Two Event Handling mechanisms- Event classes and Event Listener Interfaces	AL
<b>1st week of Apr</b>	1	Mouse and keyboard events; GUI: Panels; Frames	AL
	2	Radio buttons; Labels; Text fields; Text areas	AL
	3	Combo boxes; Scroll bars; Sliders; Menu, Dialog boxes.	AL
<b>2nd week of Apr</b>	1	Applet programming: Comparison of applets and applications	AL
	2	Applet life cycle; Developing and running applets.	AL
	3	String handling: String construction, string length, special string operations	AL
<b>3rd week of</b>	1	character extraction, string comparison, modifying string and string buffers.	AL

<b>Apr</b>	2	<b>UNIT-4</b> Exception handling: Types of Java exception ,	AL
	3	checked and unchecked exceptions; Usage of try catch-finally blocks.	AL
<b>4th week of Apr</b>	1	Multithreading: comparison of multithreading and multitasking	AL
	2	Life cycle of a thread	AL
	3	by extending the Thread class and by implementing the Runnable Interface	AL
<b>1st week of May</b>	1	two ways of creating thread Thread synchronization.	AL
	2	Advanced concepts: Collections in Java	AL
	3	Introduction to JavaBeans	AL
<b>2nd week of May</b>	1	CLASS TEST	AL
	2	Java security manager	AL
	3	Importance of generic programming in java with examples.	AL

# Vijaya College, R.V Road, Bengaluru-560004

## Department of Computer Science

Academic year-2024-2025

Academic Planner with unitisation of the Entire Syllabus (on hourly basis)

Name of the Department	Computer Science	Subject Title	Teacher
Semester	VI	BCA “A” Sec :OPERATING SYSTEM	Srinivasa Babu .B
Week/Month	Day	Portions Planned for 1 hour	
2 <sup>nd</sup> week of Feb.	1	UNIT – I Introduction: Computer System Organization	SB
	2	Architecture Structure, Operations	SB
	3	Process Management, Memory Management	SB
	4	Storage Management, Kernel Data Structures	SB
	5	Computing Environments.	SB
3 <sup>rd</sup> week of Feb	1	Operating System Structures: Services	SB
	2	System Calls, types.	SB
	3	Operating System Structure	SB
	4	System Boot	SB
	5	Processes: Process Concept	SB
4 <sup>th</sup> week of Feb	1	Scheduling, Operations	SB
	2	Inter process Communication.	SB
	3	Multithreaded Programming	SB
	4	Multicore Programming	SB
	5	Multithreading Models.	SB
1 <sup>st</sup> week of Mar	1	UNIT –II Process Synchronization: The Critical-Section Problem	SB
	2	Peterson’s Solution	SB
	3	Synchronization Hardware	SB

	4	Mutex Locks	SB
	5	Semaphores	SB
<b>2nd week of Mar</b>	1	Classic Problems of Synchronization	SB
	2	Monitors	SB
	3	Synchronization Examples	SB
	4	Process Scheduling: Criteria	SB
	5	Scheduling Algorithms	SB
<b>3rd week of Mar</b>	1	Multi-Processor Scheduling	SB
	2	Real-time CPU Scheduling	SB
	3	Deadlocks: System model	SB
	4	Characterization	SB
	5	Methods for handling deadlocks	SB
<b>4th week of Mar</b>	1	Deadlock Prevention	SB
	2	Deadlock Avoidance,	SB
	3	Deadlock Detection	SB
	4	Recovery from deadlock	SB
	5	<b>UNIT – III</b> Introduction to Memory Management Strategies	SB
<b>1st week of Apr</b>	1	Memory Management Strategies Background	SB
	2	Swapping	SB
	3	Contiguous Memory Allocation	SB
	4	Segmentation	SB
	5	Paging	SB
<b>2nd week of Apr</b>	1	Structure of the Page Table	SB
	2	Virtual Memory Management	SB
	3	Demand Paging; Copy-on-Write	SB
	4	Page Replacement	SB
	5	Allocation of Frames	SB
<b>3rd week of</b>	1	Thrashing, Memory-Mapped Files	SB

<b>Apr</b>	2	Allocating Kernel Memory	SB
	3	File System: File Concept	SB
	4	Access Methods	SB
	5	Directory and Disk Structure, Protection.	SB
<b>4th week of Apr</b>	1	File-System Implementation: Structure	SB
	2	File-System and Directory Implementation	SB
	3	Allocation Methods	SB
	4	Free Space Management	SB
	5	Efficiency and Performance, Recovery	SB
<b>1st week of May</b>	1	Mass-Storage Structure: Overview	SB
	2	Disk Scheduling	SB
	3	Disk Management	SB
	4	<b>UNIT - IV</b> Protection: Goals, Principles	SB
	5	Domain of Protection	SB
<b>2nd week of May</b>	1	Access Matrix	SB
	2	Implementation of the Access Matrix	SB
	3	Access Control	SB
	4	Revocation of the Access Rights	SB
	5	Virtual Machines: Building Blocks	SB
<b>3rd week of May</b>	1	Types of VMs and their implementations.	SB
	2	Distributed Systems: Advantages	SB
	3	Types of Network-based OS	SB
	4	CLASS TEST	SB
	5	Robustness, Design Issues,	SB
<b>4th week of May</b>	1	Distributed File Systems.	SB
	2	Case Studies: The Linux System	SB
	3	The Linux System, Windows 10.	SB



# Vijaya College, R.V Road, Bengaluru-560004

## Department of Computer Science

Academic year-2024-2025

Academic Planner with unitisation of the Entire Syllabus (on hourly basis)

Name of the Department	Computer Science	Subject Title	Teacher
Semester	VI	BCA “B” sec :OPERATING SYSTEM	Shrinidhi Kulkarni
Week/Month	Day	Portions Planned for 1 hour	
2 <sup>nd</sup> week of Feb.	1	UNIT – I Introduction: Computer System Organization	SPK
	2	Architecture Structure, Operations	SPK
	3	Process Management, Memory Management	SPK
	4	Storage Management, Kernel Data Structures	SPK
	5	Computing Environments.	SPK
3 <sup>rd</sup> week of Feb	1	Operating System Structures: Services	SPK
	2	System Calls, types.	SPK
	3	Operating System Structure	SPK
	4	System Boot	SPK
	5	Processes: Process Concept	SPK
4 <sup>th</sup> week of Feb	1	Scheduling, Operations	SPK
	2	Inter process Communication.	SPK
	3	Multithreaded Programming	SPK
	4	Multicore Programming	SPK
	5	Multithreading Models.	SPK
1 <sup>st</sup> week of Mar	1	UNIT –II Process Synchronization: The Critical-Section Problem	SPK
	2	Peterson’s Solution	SPK
	3	Synchronization Hardware	SPK

	4	Mutex Locks	SPK
	5	Semaphores	SPK
<b>2nd week of Mar</b>	1	Classic Problems of Synchronization	SPK
	2	Monitors	SPK
	3	Synchronization Examples	SPK
	4	Process Scheduling: Criteria	SPK
	5	Scheduling Algorithms	SPK
<b>3rd week of Mar</b>	1	Multi-Processor Scheduling	SPK
	2	Real-time CPU Scheduling	SPK
	3	Deadlocks: System model	SPK
	4	Characterization	SPK
	5	Methods for handling deadlocks	SPK
<b>4th week of Mar</b>	1	Deadlock Prevention	SPK
	2	Deadlock Avoidance,	SPK
	3	Deadlock Detection	SPK
	4	Recovery from deadlock	SPK
	5	<b>UNIT – III</b> Introduction to Memory Management Strategies	SPK
<b>1st week of Apr</b>	1	Memory Management Strategies Background	SPK
	2	Swapping	SPK
	3	Contiguous Memory Allocation	SPK
	4	Segmentation	SPK
	5	Paging	SPK
<b>2nd week of Apr</b>	1	Structure of the Page Table	SPK
	2	Virtual Memory Management	SPK
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<b>1st week of May</b>	1	Mass-Storage Structure: Overview	SPK
	2	Disk Scheduling	SPK
	3	Disk Management	SPK
	4	<b>UNIT - IV</b> Protection: Goals, Principles	SPK
	5	Domain of Protection	SPK
<b>2nd week of May</b>	1	Access Matrix	SPK
	2	Implementation of the Access Matrix	SPK
	3	Access Control	SPK
	4	Revocation of the Access Rights	SPK
	5	Virtual Machines: Building Blocks	SPK
<b>3rd week of May</b>	1	Types of VMs and their implementations.	SPK
	2	Distributed Systems: Advantages	SPK
	3	Types of Network-based OS	SPK
	4	CLASS TEST	SPK
	5	Robustness, Design Issues,	SPK
<b>4th week of May</b>	1	Distributed File Systems.	SPK
	2	Case Studies: The Linux System	SPK
	3	The Linux System, Windows 10.	SPK



**Vijaya College, RV Road, Bengaluru-560004**  
**Department of Computer Science**

**CURRICULAR ASPECTS for the academic year 2024-2025**

**Academic Planner with unitisation of the Entire Syllabus**

<b>Name of the Department</b>	<b>Computer Science</b>	<b>Subject Title</b>	<b>Teachers</b>
<b>Semester</b>	<b>VI BCA</b>	<b>Mobile Application Development</b>	<b>JK</b>
<b>Week/Month &amp; Date (Preferably)</b>	<b>Day</b>	<b>Portions Planned for 1 hour</b>	
2nd week of FEB 2025	1	UNIT - I Mobile Application Development - Mobile Applications	<b>JK</b>
	2	Mobile Applications and Device Platforms -	<b>JK</b>
	3	Alternatives for Building Mobile Apps - Comparing Native vs. Hybrid Applications	<b>JK</b>
	4	The Mobile Application Development Lifecycle-The Mobile Application Front-End-The Mobile Application.	<b>JK</b>
3rd week of FEB 2025	1	The Mobile Application Back-EndKey	<b>JK</b>
	2	history-Obtaining the Required Tools-Launching Your First Android Application	<b>JK</b>
	3	Exploring the IDE-Debugging Your Application-Publishing Your Application	<b>JK</b>
	4	-Publishing Your Application 2 Utilizing the Action Bar	<b>JK</b>
4 <sup>th</sup> week of FEB 2025	1	UNIT - II Understanding Activities-Linking Activities Using Intents-Fragments	<b>JK</b>
	2	Linking Activities Using Intents-Fragments-	<b>JK</b>
	3	Displaying NotificationsUnderstanding the Components of a Screen-Adapting	<b>JK</b>
	4	Display Orientation-Managing Changes to Screen Orientation-	<b>JK</b>
1 <sup>st</sup> week of March 2025	1	Utilizing the Action Bar	<b>JK</b>
	2	Creating the User Interface Programmatically Listening for UI Notifications	<b>JK</b>

	3	UNIT - III Using Basic Views- Lists- Understanding Specialized Fragments	<b>JK</b>
	4	Using Picker Views -Using List Views to Display Long Lists	<b>JK</b>
2 <sup>nd</sup> week of March 2025	1	Understanding Specialized Fragments -	<b>JK</b>
	2	Using Image Views to Display Pictures	<b>JK</b>
	3	Using Menus with Views	<b>JK</b>
	4	Using WebView- Saving and Loading User Preferences	<b>JK</b>
4 <sup>th</sup> week of March 2025	1	Persisting Data to Files-Creating and Using Databases.	<b>JK</b>
	2	Using Picker Views -Using List Views to Display Long Lists-	<b>JK</b>
	3	UNIT - IV Sharing Data in Android-Creating Your Own Content Providers.	<b>JK</b>
	4	-Creating Your Own Content Providers example	<b>JK</b>
1 <sup>st</sup> week of April 2025	1	Using the Content Provider SMS Messaging	<b>JK</b>
	2	Sending Email-Displaying	<b>JK</b>
	3	Maps- Getting Location	<b>JK</b>
	4	Data- Monitoring a Location.	<b>JK</b>
2 <sup>nd</sup> week of April 2025	1	Data in Android-Creating Your Own Content	<b>JK</b>
	2	UNIT - V Consuming Web Services Using HTTP- Consuming	<b>JK</b>
	3	Using HTTP-Consuming JSON Services	<b>JK</b>
	4	JSON Services- Creating Your Own Services	<b>JK</b>
3 <sup>rd</sup> week of April 2025	1	- Binding Activities to Services	<b>JK</b>
	2	Understanding Threading	<b>JK</b>
	3	Web Services Using HTTP-	<b>JK</b>
	4	Consuming JSON Services-	<b>JK</b>
4 <sup>th</sup> week of April 2025	1	Hybrid Applications -	<b>JK</b>
	2	The Mobile Application Front-End	<b>JK</b>
	3	The Mobile Application Development Lifecycle	<b>JK</b>
	4	Mobile Application Services-	<b>JK</b>
5 <sup>th</sup> week of April/1 <sup>st</sup> week of May 2025	1	Using Intents-Fragments	<b>JK</b>
	2	Fragments-Displaying Notifications	<b>JK</b>
	3	Understanding the Components	<b>JK</b>
	4	Using the Content Provider	<b>JK</b>

2 <sup>nd</sup> week of May 2025	1	<b>SMS Messaging -Sending Email-</b>	<b>JK</b>
	2	Displaying Maps-	<b>JK</b>
	3	Saving and Loading User Preferences-	<b>JK</b>
	4	Persisting Data to Files-Creating	<b>JK</b>
3 <sup>rd</sup> week of May 2025	1	CLASS Test	<b>JK</b>
	2	Repetition of Unit I	<b>JK</b>
	3	Repetition of Unit II	<b>JK</b>
	4	Repetition of Unit III	<b>JK</b>
4 <sup>th</sup> week of May 2025	1	Repetition of Unit IV	<b>JK</b>
	2	Solving model question paper	<b>JK</b>
	3	Solving model question paper	<b>JK</b>
	4	Solving model question paper	<b>JK</b>

# Vijaya College, RV Road, Bengaluru-560004

Department of Computer science

NAAC criteria-1: CURRICULAR ASPECTS for the academic year 2024-2025

1. Academic Planner with unitisation of the entire syllabus (on hourly basis)

## EVEN SEMESTER

Semester	IV	Paper	CA-E2
Name of the Department	BCA	Subject Title	OPERATION RESEARCH
Week/Month & Date (Preferably)	Day	Portions Planned	Teacher VINUTHA V JAIGOPI K
2nd week of FEB 2025	1	UNIT - I : Introduction to OR and Linear Programming	VV/JK
	2	Introduction to OR: Origin of Operation Research, Historical Standpoint	VV/JK
	3	Methodology,	VV/JK
3rd week of FEB 2025	1	Different Phases, Characteristics,	VV/JK
	2	Scope and Application of Operation Research.	VV/JK
	3	Linear Programming: Introduction	VV/JK
4 <sup>th</sup> week of FEB 2025	1	Linear Programming Problem Formulation	VV/JK
	2	Problems on Linear Programming	VV/JK
	3	Graphical solution problems	VV/JK
1 <sup>st</sup> week of March 2025	1	Simplex method	VV/JK
	2	Artificial variables technique	VV/JK
	3	Big-M method	VV/JK
2 <sup>nd</sup> week of March 2025	1	UNIT - II Transportation and Assignment Problems - Introduction	VV/JK
	2	Transportation Problem: definition, Linear form	VV/JK

	3	Solution methods: North west corner method,	VV/JK
3 <sup>rd</sup> week of March 2025	1	least cost method,	VV/JK
	2	Vogel's approximation method	VV/JK
	3	Unbalanced problems	VV/JK
4 <sup>th</sup> week of March 2025	1	Degeneracy in transportation,	VV/JK
	2	Modified Distribution method.	VV/JK
	3	Assignment Problem : Formulation	VV/JK
1 <sup>st</sup> week of April 2025	1	Solutions to assignment problems by Hungarian method	VV/JK
	2	Unbalanced problems	VV/JK
	3	Maximization assignment problems.	VV/JK
2 <sup>nd</sup> week of April 2025	1	Sequencing: Basic assumptions,	VV/JK
	2	sequencing- n jobs through two machines model	VV/JK
	3	n jobs through three machines model.	VV/JK
3 <sup>rd</sup> week of April 2025	1	Game Theory: Definition	VV/JK
	2	Pure Strategy problems,	VV/JK
	3	Saddle point,	VV/JK
4 <sup>th</sup> week of April 2025	1	Max-Min and Min-Max criteria,	VV/JK
	2	Principle of Dominance,	VV/JK
	3	Solution of games with Saddle point.	VV/JK
5 <sup>th</sup> week of April/1 <sup>st</sup> week of May 2025	1	Mixed Strategy problems	VV/JK
	2	Solution of 2X2 games by Arithmetic method	VV/JK
	3	Solution of 2Xn m and mX2 games by graphical method	VV/JK
2 <sup>nd</sup> week of May	1	Network Problems: Shortest Path problem, Minimum spanning tree problem.	VV/JK

2025	2	Project Management: Introduction, Construction of networks	VV/JK
	3	Fulkerson's rule for numbering the nodes,	VV/JK
3 <sup>rd</sup> week of May 2025	1	Critical path method to find the expected completion time of a project,	VV/JK
	2	determination of floats in networks,	VV/JK
	3	PERT networks,	VV/JK
4 <sup>th</sup> week of May 2025	1	determining the probability of completing a project,	VV/JK
	2	Predicting the completion time of a project.	VV/JK