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-C12T
BCA	III SEM	COMPUTER NETWORKS	Teacher
Week/Month	Day	Portions Planned for 3 hour	NAGESHWARI DIVYA SR
1st week of AUG 24	1	Introduction: Communication Network and services	SRD
	2	Approaches to Network Design, Network Functions	
	3	Network Topology	
2nd week of AUG 24	1	circuit Switching	NS
	2	Internet packet switching	
	3	Key factors in Communication Network Evolution	
3rd Week of AUG 24	1	TCP/IP Model	SRD
	2	Telnet FTP and IP Utilities.	
	3	IP Utilities and Digital Transmission	
4th Week of AUG 24	1	Frequency Domain and Time Domain	NS
	2	Fundamental limits in Digital Communication – The Nyquist Signalling rate,	
	3	The Shannon channel capacity	
1st week of OCT 24	1	Transmission Systems: properties of media and digital transmission Systems – Twisted Pair	SRD
	2	Coaxial Cable, Optical Fibre,	
	3	Radio Transmission Infrared Light Error detection and correction – Error detection	
2nd week of OCT 24	1	Error detecting capability of a polynomial code	NS
	2	Multiplexing – frequency – Division, Time – Division, SONET; Wavelength Division	
	3	Multiplexing Circuit switches; Telephone network, signalling Traffic and Overload control in Telephone networks	
3rd week of OCT 24	1	Peer –to-Peer Protocols: - Peer-to peer Protocols and service models	NS
	2	ARQ Protocols stop and wait , Go –back-N	
	3	Selective Repeat, Transmission efficiency of ARQ Protocols, Other adaptation functions	
4th week of OCT 24	1	Local Area Networks and Medium access Control Protocols:- Multiple access communications	NS
	2	Local Area network – LAN Structure	
	3	MAC Sublayer, Logical link control layer	
1st week of NOV 24	1	Reservation Systems, polling, Token passing rings	

	2	comparison of Random access & Scheduling access control	**SRD**
	3	Comparison of Radom access & SHEDULING MEDIUM access controls	
2nd week of NOV 24	1	LAN Standard; Token Ring and IEEE 8025	**NS**
	2	LAN standard, FDDI Wireless LAN's	
	3	IEEE 802.11 Standards	
3rd week NOV 24	1	Mixed – media Bridges.	**NS**
	2	Packet Switching Networks: - Network services & Internal Network Operation; Packet Network Topology	
	3	Datagrams & VIRTUAL circuits; structure of switch/ Router, Connectionless packet switching	
4th week of NOV 24	1	Routing tables	**SRD**
	2	shortest path routing algorithms	
	3	Flooding	
1st week of DEC 2024	1	Link state routing	**NS**
	2	congestion control algorithms	
	3	Revision of unit-1	
2nd week DEC 2024	1	Revision of unit-2	**NS**
	2	Revision of unit-2	
	3	Unit 2- Test	
3rd week of DEC 2024	1	Unit 3-Test	**NS**
	2	Revision of unit-4	
	3	Revision of unit-4	
4th week of DEC 2024	1	Revision of unit-5	**SRD**
	2	Unit 5-Test	
	3	Previous year Question paper Discussion	

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

Name of the Department	Computer Science	Subject Title	Teacher
Semester	**III**	**CA-C11T: OPERATINGSYSTEMS**	
Week/Month	**Day**	**Portions Planned for 1 hour**	
1st week of Aug	1	UNIT – I Introduction	JK
	2	Application of Operting System	JK
	3	Various Operating system	JK
2nd week of Aug	1	Computer System Organization,	JK
	2	Architecture, Structure	JK
	3	Process Management	JK
3rd week of Aug	1	Memory Management	JK
	2	Storage Management	JK
	3	Kernel Data Structures	JK
4thWeek of Aug	1	Computing Environments	JK
	2	Operating System Structures: Services, System Calls	JK
	3	Types, Operating System Structure, System Boot	JK
1st week of Oct	1	Processes: Process Concept, Scheduling	JK
	2	Operations, Interprocess Communication	JK
	3	Multithreaded Programming: Multicore Programming, Multithreading Models	JK

2nd week of Oct	1	UNIT –II Process Synchronization	JK
	2	The Critical-Section Problem, Peterson's Solution	JK
	3	Synchronisation Hardware, Mutex Locks	JK
3rd week of Oct	1	Semaphores, Classic Problems of Synchronization	JK
	2	Monitors, Synchronization Examples	JK
	3	Process Scheduling: Criteria, Scheduling Algorithms	JK
4th week of Oct	1	Multi-Processor Scheduling	JK
	2	Real-time CPU Scheduling	JK
	3	Deadlocks: System model, Characterization	JK
1st Week of Nov	1	Methods for handling deadlocks	JK
	2	Deadlock Prevention, Avoidance, Detection and Recovery from deadlock	JK
	3	Assignment 1 – covering all the above topics	JK
2nd Week of Nov	1	UNIT – III Memory Management Strategies	JK
	2	Background, Swapping, Contiguous Memory Allocation	JK
	3	Segmentation, Paging	JK
3rd Week of Nov	1	Structure of the Page Table. Virtual Memory Management	JK
	2	Demand Paging, Copy-on-Write	JK
	3	Page Replacement; Allocation of Frames	JK
4th Week of Nov	1	Thrashing, Memory-Mapped Files	JK
	2	Allocating Kernel Memory.	JK
	3	File System: File Concept, Access Methods	JK
1st Week of Dec	1	Directory and Disk Structure, Protection, File-System Implementation: Structure	JK

	2	Internal Assessment	JK
	3	UNIT – IV File-System and Directory Implementation	JK
2nd Week of Dec	1	Allocation Methods, Free Space Management	JK
	2	Efficiency and Performance, Recovery	JK
	3	Mass-Storage Structure: Overview, Disk Scheduling	JK
3rd Week of Dec	1	Disk Management, Distributed Systems: Advantages	JK
	2	Types of Network- based OS, Robustness, Design Issues	JK
	3	Distributed File Systems	JK
4th Week of Dec	1	Case Studies: The Linux System	JK
	2	Windows 10 (Process, Memory, storage management)	JK
	3	Assignment and Discussion on above topics	JK

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Department of computer Science

Course BCA- III SEMESTER

CA-C13T: PYTHON PROGRAMMING

Academic years 2024-2025

FACULTY NAME: VINUTHA

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

Odd semester

Name of the Department	**Computer Science**	**Subject Title**	**Teacher**
Semester	**III**	**CA-C13T: PYTHON PROGRAMMING**	**VV**
Week/Month	**Day**	**Portions Planned for 1 hour**	**VV**
1st Week of Nov	1	**Python Programming Language: Introduction,** Python Interpreter/Shell, Identifiers, Keywords, Statements and Expressions	**VV**
	2	Variables, Operators, Precedence and Associativity, Data types, Indentation, Comments, Reading Input, Print Output,	**VV**
	3	Type Conversions, The type() function and Is operator, Dynamic and Strongly Typed Language.	**VV**
2nd Week of Nov	1	**Control Flow Statements:**The if Decision Control Flow Statement, The if…else DecisionControl FlowStatement, The if…elif…else Decision Control Statement, Nested if Statement, The while Loop, The for Loop,	**VV**
	2	The continue and break Statements. **Functions**: Built-In Functions, Commonly Used Modules,	**VV**
	3	Function Definition and Calling the Function, The return Statement and void Function, Scope and Life time of Variables,	**VV**

3rd Week of Nov	1	Default Parameters, Command Line Arguments.	**VV**
	2	**Strings:** Creating and Storing Strings, Basic String operations,Accessing Characters in StringbyIndexNumber,	**VV**
	3	String Slicing and Joining, String methods	**VV**
4th Week of Nov	1	**Lists:** Creating Lists, BasicListOperations, Indexing and Slicing in Lists	**VV**
	2	Built-In Functions Used on Lists, List Methods,	**VV**
	3	ThedelStatement, **Dictionaries:** Creating Dictionary, Accessing and modifying key:	**VV**
1st Week of Dec	1	value pairs in Dictionaries, Built-In Functions Used on Dictionaries,	**VV**
	2	Dictionary methods, ThedelStatement**.**	**VV**
	3	**Tuples and Sets:** Creating Tuples,	**VV**
2nd Week of Dec	1	Basic Tuple Operations, Indexing and Slicing in Tuples,	**VV**
	2	Built-In Functions Used onTuples, Relations between Tuples and Lists,	**VV**
	3	Relations between Tuples and Dictionaries,	**VV**
3rd Week of Dec	1	Tuple Methods, Using zip() Function,	**VV**
	2	Sets, Set Methods, Frozenset.	**VV**
	3	Ist internal test	**VV**
4th Week of Dec	1	Creating and Reading Text Data, File Methods to Read and Write Data	**VV**
	2	Reading and Writing Binary Files,	**VV**
	3	The Pickle module, Reading and writing CSV files	**VV**

1st Week of Jan	1	**Object- Oriented Programming:**	**VV**
	2	Classes and Objects,	**VV**
	3	Creating Classes in Python,	**VV**
2nd Week of Jan	1	Creating Objects in Python,	**VV**
	2	The Constructor Method	**VV**
	3	Classes with Multiple Objects	**VV**
3rd Week of Jan	1	Class Attributes versus Data attributes	**VV**
	2	Encapsulation, Inheritance,	**VV**
	3	The Polymorphism.	**VV**
4th Week of Jan	1	**Data Visualization:**	**VV**
	2	Generating Data-Installing Matplotlib	**VV**
	3	Plotting a Simple Line Graph	**VV**
1st Week of Feb	1	Random Walks	**VV**
	2	Rolling Dice with Plotly.	**VV**
	3	Downloading Data-	**VV**
2nd Week of Feb	1	The CSV File Format	**VV**

	2	Mapping Global Data	**VV**
	3	Sets: JSON Format,	**VV**
3rd Week of Feb	1	**Working with APIs:**	**VV**
	2	Using a Web API, Visualizing Repositories Using Plotly.	**VV**
	3	Revision classes	**VV**

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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	**V BCA**	**CA-E1:Data Mining**	
Week/Month & Date (Preferably)	**Day**	**Portions Planned for 1 hour Unit 3 & 4-php Weekly 02 hrs**	**BL**
1st week of Oct	1	Introduction data warehousing , ETL Tools Classification	
	2	Regression - Time Series Analysis- Prediction -	
	3	Association Rules - Sequence Discovery	
2nd week of Oct	1	Social Implications of Data Mining	
	2	Data Mining Techniques:	
	3	Data Mining Versus Knowledge Discovery in Databases	
3rd week of Oct	1	Data Mining from a Database Perspective.	
	2	Mining from a Database Perspective	
	3	Statistical Perspective on Data Mining -	
4th week of Oct	1	Similarity Measures -Decision Trees.	
	2	The Development of Data Mining	
	3	Data Mining Metrics	
1st week of Nov	1	Clustering – Summarization	
	2	Data Mining Techniques: Statistical Perspective on Data Mining	
	3	- Data Mining Issues -	
2nd week of Nov	1	Social Implications of Data Mining	
	2	Internal test	
	3	UNIT-II CLASSIFICATION	

		Introduction - Statistical-Based Algorithms: Regression	
3rd week of Nov	1	Data Mining Versus Knowledge Discovery in Databases	
	2	Data Mining Metrics	
	3	The Development of Data Mining	
4th week of Nov	1	UNIT-III CLUSTERING Introduction - Similarity and Distance Measures	
	2	Clustering Algorithm - K -Means Clustering - Nearest Neighbor Algorithms	
	3	- . - Similarity Measures - Decision Trees.	
1st week of Dec	1	Bayesian Classification	
	2	Distance- Based Algorithms: Simple Approach - K Nearest Neighbors.	
	3	Decision Tree-Based Algorithms: ID3 – C4.5 - CART	
2nd week of Dec	1	Outliers. Hierarchical Algorithms	
	2	Agglomerative Algorithms - Divisive Clustering.	
	3	Partitional Algorithms: Minimum Spanning Tree - Squared Error	
3rd week of Dec	1	UNIT-IV ASSOCIATION RULES Introduction – Large Itemsets	
	2	Basic Algorithms : Apriori Algorithm , Sampling algorithm	
	3	Data Parallelism Task Parallelism. Comparing approaches – Incremental rules	
4th week of Dec	1	Revision	
	2	Revision	
	3	Test	

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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	**V BCA**	**CA-C22T: Data Analytics**	
Week/Month & Date (Preferably)	**Day**	**Portions Planned for Weekly 04 hrs**	**SRIKANTH SS**
1st week of Oct	1	Evolution of Data Analytics,	
	2	Data Analytics Overview,	
	3	Types of Data Analytics -Descriptive Analytics	
	4	-Diagnostic Analytics -Predictive Analytics -	
2nd week of Oct	1	Prescriptive Analytics	
	2	Importance and Benefits of Data Analytics.	
	3	Different Applications of Analytics in Business,	
	4	Text Analytics and Web Analytics, Skills for Business Analytics.	
3rd week of Oct	1	Sample Space, Types of Events,	
	2	Measures of probability, conditional probability,	
	3	Bayes' theorem, Random variable,	
	4	Probability Distributions- Binomial, Poisson and Normal, Sampling Distributions,	
4th week of Oct	1	Estimation and Hypothesis Testing- t-test	
	2	, Analysis of variance (ANOVA) and Chi-square test,	
	3	Correlation Analysis-Simple Correlation coefficient, Interpretation, Scatter plot.	
	4	Linear Regression-Simple and Multiple, Polynomial Regression,	
1st week of Nov	1	REVIEW OF UNIT -1	
	2	Logistic Regression- with one variable and with multiple variables,	

	3	Logistic Regression vs. Linear Regression.	
	4	Introduction to data visualization,	
2nd week of Nov	1	Visualization foundations, Introduction to Power BI,	
	2	Power BI – Advantages and Scalable Options,	
	3	Power BI Architecture and Data Access,	
	4	Visualization Techniques for Spatial Data, Geospatial Data,	
3rd week of Nov	1	Time-Oriented Data, Multivariate Data,	
	2	Trees, Graphs,	
	3	Networks, Text and Document Visualization,	
	4	Power Query & M Language.	
4th week of Nov	1	Importance and types of case studies:	
	2	case study of Amazon,	
	3	case study of Amazon,	
	4	case study of Amazon,	
1st week of Dec	1	REVIEW OF UNIT 2	
	2	Twitter,	
	3	Twitter,	
	4	Netflix,	
2nd week of Dec	1	Netflix,	
	2	Uber,	
	3	Uber,	
	4	COVID- 19: for understanding business scenarios	
3rd week of Dec	1	COVID- 19: how they applied the analytics	
	2	COVID- 19: analytics to improve their decision making,	
	3	COVID- 19: cost reduction	
	4	COVID- 19: logistics planning	
4th week of Dec	1	COVID- 19: other benefits	
	2	REVIEW OF UNIT 3	
	3	MODEL QP 1	
	4	MODEL QP 2	

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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	**I BCA**	**CA-C3T:Data Structures using C**	
Week/Month & Date (Preferably)	**Day**	**Portions Planned for 1 hour**	
1st week of Aug.	1	Unit-I Introduction and Overview: Definition, Elementary data organization,	SRD
	2	Data Structures, data structures operations,	SRD
	3	Abstract data types, algorithms complexity	SRD
2nd week of Aug	1	time-space tradeoff. Preliminaries: Mathematical notations and functions,	SRD
	2	Algorithmic notations, control structures, Complexity of algorithms,	SRD
	3	asymptotic notations for complexity of algorithms. String Processing: Definition,	SRD
3rd week of Aug	1	Storing Stings, String as ADT, String	SRD
	2	Summary and Discussion on Important questions	SRD
	3	Unit-II Arrays: Definition, Linear arrays,	SRD
4th week of Aug	1	arrays as ADT, Representation of Linear Arrays in Memory,	SRD
	2	Traversing Linear arrays, Inserting and deleting,	SRD
	3	Sorting: Bubble sort, shell sort, quick sort	SRD
1st week of Oct	1	Insertion sort, Selection sort,	SRD
	2	Searching: Linear Search, Binary search,	SRD
	3	Multidimensional arrays, Matrices and Sparse matrices.	SRD
2nd week of Oct	1	Summary and Discussion on Important questions	SRD
	2	Unit-III Linked list: Definition, Representation of Singly linked list in memory,	SRD
	3	Traversing a Singly linked list, Searching a Singly linked list,	SRD

3rd week of Oct	1	Memory allocation, Garbage collection, Insertion into a singly linked list,	SRD
	2	Deletion from a singly liked list; Doubly liked list,	SRD
	3	Header liked list, Circular linked list.	SRD
4th week of Oct	1	Summary and Discussion on Important questions	SRD
	2	Unit-IV Stacks – Definition, Array representation of stacks,	SRD
	3	Linked representation of stacks, Stack as ADT,	SRD
1st week of Nov	1	Arithmetic Expressions: Polish Notation, Application of Stacks, Recursion,	SRD
	2	Towers of Hanoi, Implementation of recursive procedures by stack.	SRD
	3	Queues – Definition, Array representation of queue,	SRD
2nd week of Nov	1	Linked list representation of queues Types of queue: Simple queue,	SRD
	2	Circular queue, Double ended queue ,	SRD
	3	Priority queue, Operations on Queues, Applications of queues.	SRD
3rd week of Nov	1	Summary and Discussion on Important questions	SRD
	2	Unit-V Graphs: Graph theory terminology,	SRD
	3	Sequential representation of Graphs: Adjacency matrix, traversing a Graph.	SRD
4th week of Nov	1	Tree – Definitions, Binary trees, Representing binary trees in memory,	SRD
	2	Traversing binary trees	SRD
	3	Hashing,sparse tables	SRD
1st week of Dec	1	B trees ,AVL trees ,applications of trees	SRD
	2	Collision resolution with open addressing, collision resolution in chaining.	SRD
	3	Revision or class adjustments due to holidays ,internal test etc	SRD

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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 / Section	I SEM BCA 'A' Sec	CA-C2T: PROBLEM SOLVING TECHNIQUES	Vinutha V
Week/Month	Day	Portions Planned for 1 hour	
1st week of Aug	1	Introduction: The Role of Algorithms in Computing, Algorithms as a technology	VV
	2	Analyzing algorithms	VV
	3	Designing algorithms	VV
2nd week of Aug	1	Growth of Functions, Asymptotic notation	VV
	2	Standard notations and common functions.	VV
	3	Fundamental Algorithms: Exchanging the values of two variables, Counting.	VV
3rd week of Aug	1	Summation of a set of numbers, Factorial Computation	VV
	2	Generating of the Fibonacci sequence, Character to number conversion	VV
	3	Reversing the digits of an integer	VV
4th week of Aug	1	C Programming: history, features, applications	VV
	2	Structure of a c program	VV
	3	Keywords, data type, constants, Variables	VV
5th week of Aug	1	Input/ output – unformatted functions	VV
	2	Input/ output – formatted functions	VV

	3	Operators – arithmetic, unary, relational , logical operators, Assignment	VV
1st week of Oct	1	bitwise, conditional and special operators, Expressions, type casting	VV
	2	Control Flow: Statements and Blocks, simple if , If-else, nested if	VV
	3	Control Flow: else-if ladder, switch	VV
2nd week of Oct	1	loops: while loop, do-while	VV
	2	for loop, break and continue, goto and labels	VV
	3	Array – 1D array- declaration, initialization, accessing, memory representation.	VV
3rd week of Oct	1	Array – 2D array- declaration, initialization, accessing, memory representation.	VV
	2	Strings- definition, initialization, reading and writing strings	VV
	3	Operations on strings, character handing functions	VV
4ht Week of Oct	1	Functions – definition , categories of functions	VV
	2	Types of arguments, structures- definition , declaration	VV
	3	Initialization , accessing structure elements, unions	VV
1st week of Nov	1	Pointers- pointers and address, pointers and array	VV
	2	Pointers and function arguments	VV
	3	Command line arguments	VV
2nd week of Nov	1	Factoring Methods: Finding the square root of a number, the smallest Divisor of an integer	VV
	2	the greatest common divisor of two integers, computing the prime factors of an integer	VV
	3	Generation of pseudo random numbers, raising a number to a large power.	VV
3rd week of Nov	1	Array Techniques: Array order Reversal, Array counting or Histogramming	VV
	2	INTERNALS	VV
	3	INTERNALS	VV

4th week of Nov	1	Finding the maximum number in a set, removal of duplicates from an ordered array, partitioning an array	VV
	2	Finding the kth smallest element, Multiplication of two matrices	VV
	3	Merging: the two-way merge, Sorting by selection	VV
5th week of Nov	1	Sorting- sorting by exchange, sorting by insertion	VV
	2	Sorting by diminishing increment, sorting by partitioning..	VV
	3	Searching: binary search, hash search	VV
1st week of Dec	1	Text processing and Pattern searching: text line length adjustment.	VV
	2	keyword searching in text, text line editing	VV
	3	linear pattern search	VV

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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	I sem BCA 'B' Sec	Problem Solving Techniques-(CA-C2T)	SOWMYA S
Week/Month	Day/Hour	Portions Planned for 1 hour	Teacher
4th week of July	1	INTRODUCTION: The Role of Algorithms in Computing, Algorithms as a technology	
1st week of Aug	1	Analysing Algorithms, Designing Algorithms	SS
	2	Growth of Functions, Asymptotic notation	
	3	Standard notations and common functions.	
2nd week of Aug	1	Fundamental Algorithms: Exchanging the values of two variables	
	2	Counting, Summation of a set of numbers	
	3	Factorial Computation	
3rd week of Aug	1	Generating of the Fibonacci sequence	
	2	Reversing the digits of an integer	
	3	Character to number conversion.	
4th week of Aug	1	C Programming: Variables and Arithmetic expressions.	
	2	Arithmetic expressions.	
	3	Standard input and output	
5th week of Aug/1st	1	formatted output- printf, variable length argument list,	

week of Oct	2	formatted input-scanf.	
	3	Control Flow: If-else, else-if	
2nd week of Oct	1	switch, loops: while loop, do while,	
	2	for loop,	
	3	break and continue, goto and labels.	
3rd week of Oct	1	Pointers and Arrays: pointers and address	
	2	pointers and function arguments,	
	3	multidimensional array,	
4th week of Oct	1	initialization of pointer arrays,	
	2	command line arguments.	
	3	Factoring Methods: Finding the square root of a number,	
5th week of Oct/1st week of Nov	1	the smallest Divisor of an integer, the greatest common divisor of two integers,	
	2	computing the prime factors of an integer, generation of pseudo random numbers	
	3	raising a number to a large power.	
2nd week of Nov	1	Array Techniques: Array order Reversal, Array counting or Histogramming,	
	2	Finding the maximum number in a set, removal of duplicates from an ordered array,	
	3	partitioning an array, Finding the kth smallest element,	
3rd week of Nov	1	INTERNALS	
	2	INTERNALS	
	3	INTERNALS	

4th week of Nov	1	multiplication of two matrices. Merging: the two-way merge.	
	2	Merging: the two-way merge.	
	3	Sorting: Sorting by selection, sorting by exchange,	
5th week of Nov/1st week of Dec	1	sorting by insertion, sorting by diminishing increment,	**SS**
	2	sorting by partitioning. Searching: binary search,	
	3	hash search. Text processing and Pattern searching: text line length adjustment,	
2nd week of Dec	1	keyword searching in text, text line editing, linear pattern search	
	2	**Solving model/previous question paper**	
	3	**Solving model /previous question paper**	

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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**	**DCN-BCA501T**
BCA	**V sem**	**CA-C21T: ARTIFICIAL INTELLIGENCE**	**Teacher**
Week/Month	**Day**	**Portions Planned for 1 hour**	**SWATHI R**
1st week of AUG	1	Introduction to Al: What is AI?	**SR**
	2	Intelligent Agents: Agents and environment	
	3	the concept of Rationality	
	4	the nature of the environment,the structure of agents	
2nd week of AUG	1	Problem-solving: Problem solving agents	**SR**
	2	Uninformed search strategies: DFS	
	3	DFS BFS	
	4	BFS; Informed Search	
3rd Week of AUG	1	Best First Search, A* search	**SR**
	2	A* search	
	3	AO* search	
	4	Means End Analysis,Adversarial Search & Games	
4th Week of AUG	1	Two-player zero-sum games	**SR**
	2	Minimax Search	
	3	Alpha-Beta pruning.	
	4	Alpha-Beta pruning.	
1st week of OCT	1	UNIT - II Knowledge-based Agents	**SR**
	2	The Wumpus world as an example world	
	3	The Wumpus world as an example world	
	4	Logic	
2nd week of OCT	1	Propositional logic	**SR**
	2	First-order predicate logic,	
	3	Propositional versus first-order inference	
	4	Unification and lifting,Forward chaining, Backward chaining	
3rd week of OCT	1	Resolution	**SR**
	2	Truth maintenance systems	
	3	Knowledge in Learning	
	4	What is learning? Types of Learning,Rote Learning	
4th week of OCT	1	Learning by Taking Advice	**SR**
	2	Learning in Problem Solving	
	3	Learning from Examples	

	4	Winston's Learning Program,Decision Trees	
1st week of NOV	1	Introduction to Planning: Blocks World problem, Strips	**SR**
	2	Handling Uncertainties: Nonmonotonic reasoning	
	3	Probabilistic reasoning, Fuzzy logic	
	4	Robotics: Fundamentals of Robotics,Robot Kinematics;	
2nd week of NOV	1	Computer Vision: Introduction to image processing and classification	**SR**
	2	object detection	
	3	Natural Language Processing: Introduction	
	4	Syntactic Processing, Semantic Analysis	
3rd week NOV	1	Discourse and Pragmatic Processing	**SR**
	2	Expert Systems: Architecture	
	3	role of expert systems	
	4	two case studies of Expert Systems	
4th week of NOV	1	Introduction to Machine learning: Supervised learning	**SR**
	2	unsupervised learning	
	3	reinforcement learning	
	4	Neural Networks: Introductionbasics of ANN	
1st week of DEC 20	1	Deep Learning with basics of CNN	**SR**
	2	RNN, LSTM and their applications	
	3	Revision of unit-1	
	4	Unit 1-Test	
2nd week DEC 20	1	Revision of unit-2	**SR**
	2	Revision of unit-2	
	3	Unit 2- Test	
	4	Revision of unit-3	
3rd week of DEC 20	1	Unit 3-Test	**SR**
	2	Revision of unit-4	
	3	Revision of unit-4	
	4	Unit 4 - Test	
4th week of DEC 20	1	Revision of unit-5	**SR**
	2	Unit 5-Test	
	3	Previous year Question paper Discussion	
	4	Previous year Question paper Discussion	

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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	**V BCA**	**CA-E1 Computer Graphics**	**MGB/VV**
Week/Month & Date (Preferably)	**Day**	**Portions Planned for 1 hour**	
2ND Week of october	1	Application of computer graphics; Graphic software; Video display devices- Raster scan and random scan displays; CRT functioning - Factors affecting CRT; Raster scan system; Color CRT monitors -	MGB
	2	Display processor with raster system; Raster co-ordinate system; Color mapping - Instruction set and raster system applications	MGB
	3		VV
3rd Week of october	1	Line drawing methods-Direct, DDA and Bresenhams, line attributes	MGB
	2	Circle drawing – Direct and midpoint circle drawing	MGB
	3		VV
4th Week of october	1	ellipse drawing-Bresenhams ellipse algorithm	MGB
	2	Area fillingscanline area filling and character attributes	MGB
	3		VV
1st week of Nov	1	3D-Coordinate system; 3D-Display techniques; parallel projections	MGB
	2	Perspective projections, Orthogonal projections	MGB
	3		VV
2nd week of Nov	1	3D-Transformations; Translation, Scaling, Rotation,	MGB
	2	Reflection ,polygon surfaces,	MGB
	3		VV

2nd week of Nov	1	polygon tables;	MGB
	2	Octrees;	MGB
	3		VV
3rd week of Nov	1	Hidden surface removal;	MGB
	2	Depth buffer and scan line method	MGB
	3		VV
4th week of Nov	1	Introduction to segments,	MGB
	2	functions for segmenting	MGB
	3		VV
1st week of Dec	1	display file compilation;	
	2	display file, segment attributes,	
	3		VV
2nd week of Dec	1	Input Devices: Keyboard, Mouse, Joystick, Touch panels	
	2	Dynamic manipulation,	
	3		VV
3nd week of Dec	1	Gravity field,Rubber band.	
	2	Track ball, Light pen, Graphic tablets. Positioning techniques, Grid, Constraints	
	3		VV
4th week of Dec	1	Revision	MGB
	2	TEST	MGB
	3		VV

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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	V BCA	CA-C23T:Web Programming	
Week/Month & Date (Preferably)	Day	Portions Planned for 1 hour Unit 1 & 2-JavaScript & XML Weekly 02 hrs Unit 3 & 4-php Weekly 02 hrs	SS-JavaScript &XML BN -PHP
1st week of Oct	1	**Unit-I:** Fundamentals of Web: Internet – World Wide Web - Web Browsers - Web Servers	SS-JavaScript& XML BN-php
	2	URLs – MIME – Internet Security - The Web Programmers Toolbox	
	3	**Unit-III** :Introduction to PHP -Difference between PHP and JavaScript	
	4	Introduction to PHP -Structure of PHP -Syntax , Comments, Examples,echo & print statements	
2nd week of Oct	1	**JS** :Java Script and HTML Documents: The JavaScript execution environment - The Document Object Model	
	2	**JS** : DOM -levels of DOM	
	3	PHP :Variables,Constants,Super Globals & Magic Constants Variable Scope	
	4	PHP :Data Types ,Operators and its types,Expressions	
3rd week of Oct	1	**JS** :Element access in JavaScript	
	2	**JS** : Events and event handling	
	3	PHP :Control Flow Statements with examples	
	4	PHP :Control Flow Statements with examples ,switch Statement	
4th week of Oct	1	**JS:** Handling events from the Body elements, Button elements	
	2	**JS** : Handling events from the textbox,password elements	
	3	PHP :Loops with examples	
	4	PHP :Loops with examples	
1st week of	1	**JS:** The DOM 2 event model - The navigator object	

Nov	2	**JS** : DOM tree traversal and modification.	**SS-JavaScript & XML** **BN-php**
	3	PHP :For each ...,break, continue,ternary operators	
	4	**Unit IV**: PHP :Functions & its Types -Definition ,Syntax ,Examples	
2nd week of Nov	1	**Unit II:** **JS :** Dynamic Documents with JavaScript: Introduction to dynamic documents - Positioning elements	
	2	**JS :** Moving elements - Element visibility - Changing colours and fonts - Dynamic content	
	3	PHP : Function with Parameters and return types	
	4	PHP :Date and Time Functions, Math Functions with examples	
3rd week of Nov	1	**INTERNALS**	
	2	**INTERNALS**	
	3	**INTERNALS**	
	4	**INTERNALS**	
4th week of Nov	1	**JS:** Stacking elements - Locating the mouse cursor - Reacting to a mouse click	
	2	**JS:** Slow movement of elements, Dragging and dropping elements.	
	3	PHP : Arrays & its types - Definition ,Syntax ,Examples	
	4	Revision /doubt clearing Session	
1st week of Dec	1	**XML**: Introduction – Syntax - Document structure	
	2	**XML**: Document Type definitions - Namespaces	
	3	PHP :Exception Handling with Examples	
	4	PHP :Form Handling	
2nd week of Dec	1	**XML**: XML schemas - Displaying raw XML documents	
	2	**XML**: Displaying XML documents with CSS	
	3	PHP :State Management: Sessions	
	4	PHP :State Management: Cookies	
3rd week of Dec	1	**XML**: XSLT style sheets	
	2	**XML** : XML Processors	
	3	PHP :File Handling	
	4	PHP :Database Connection	
4th week of Dec	1	**XML** : Web services	
	2	Revision and probable question and answer discussion	
	3	PHP :Database Connection	
	4	Revision	

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CURRICULAR ASPECTS for the academic year 2024-2025

Academic Planner with unitisation of the Entire Syllabus

Name of the Department	Computer Science	Subject Title	
Semester	V BCA	**SEC III: Cyber Crimes, Cyber Laws and Intellectual Property Rights**	
Week/Month & Date (Preferably)	Day	Portions Planned for 1 hour	Teacher name
1st week of Oct	1	1. **Cybercrime & laws:** Introduction	SB
	2	Identify types of cyber crimes	
	3	Prepare checklist for reporting cyber-crime at Cybercrime Police Station.	
2nd week of Oct	1	Prepare checklist for reporting cyber-crime online.	
	2	Identify phishing emails	
	3	**2. Social Media and E-commerce Security**	
3rd week of Oct	1	Basic checklist, privacy and security settings for popular social media platforms.	
	2	Reporting and redressal mechanism for violations and misuse of social media platforms.	
	3	Configure security settings in Mobile Wallets and UPIs.	
4th week of Oct	1	**3. Digital Devices Security, Tools and Technologies for Cyber Security**	
	2	Setting, configuring and managing	
	3	Three password policy in the computer	
1st week of Nov	1	BIOS, Administrator and Standard User	
	2	Security patch management	
	3	updates in Computers and Mobiles.	

2nd week of Nov	1	Managing Application permissions in Mobile phone	
	2	Installation and configuration of computer Anti-virus.	
	3	Types of viruses	
3rd week of Nov	1	Wi-Fi security management in computer.	
	2	Wi-Fi security management in mobile	
	3	**4. IPR : Introduction**	
4th week of Nov	1	IPR issues in Cyber Space	
	2	Identify liabilities in case of infringement of copyrights	
	3	trademarks/patents using Cases	
1st week of Dec	1	Procedure for registration of patents	
	2	copyrights, trademarks and GI	
	3	Recognize Geographical Indicators and their significance	
2nd week of Dec	1	Discuss Landmark judgements	
	2	judgements on trademark	
	3	Traditional knowledge and IPR	
3rd week of Dec	1	domain names issues	
	2	Revision	
	3	Revision	
4th week of Dec	1	Revision	
	2	Revision	
	3	Revision	