



TULSIRAMJI GAIKWAD-PATIL COLLEGE OF ENGINEERING & TECHNOLOGY

Wardha Road, Nagpur - 441108

Accredited with NAAC A+ Grade & NBA Accredited (EE, ME, CE & ECE)

Approved by AICTE, New Delhi, Govt. of Maharashtra

(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)



SCHEME OF INSTRUCTION

Programme: Bachelor in Computer Applications

First Year Bachelor in Computer Applications Semester—II

Sr. No.	Course category	Course Name	Course Code	Teaching Scheme (hrs.)			Total credits	% weightage			ESE Duration (hrs.)	TOTAL
				L	T	P		CT	CA	ESE		
1	DSC	Mathematics Foundations to Computer Science –II	BCA11201	3	-	-	3	30	10	60	3	100
2	DSC	Data Structures	BCA11202	3	-	-	3	30	10	60	3	100
3	DSC	Data Structures Lab	BCA11203	-	-	4	2	-	25	25	2	50
4	DSC	Operating systems	BCA11204	3	-	-	3	30	10	60	3	100
5	DSC	Operating systems Lab	BCA11205	-	-	2	1	-	25	25	2	50
6	SEC	Object Oriented Programming	BCA11206	3	-	-	3	30	10	60	3	100
7	SEC	Object Oriented Programming using Java and C++ Lab	BCA11207	-	-	4	2	-	25	25	2	50
8	SEC	Web Technologies Lab	BCA11208	-	-	2	1	-	25	25	2	50
9	VAC	Indian Constitution	BBA11206	2	-	-	2	14	06	30	2	50
10	AEC	Liberal Learning Courses II - Lab	BSH41Y01	-	-	4	2	-	50		2	50
				14	0	16	22	120	215	365	24	700

Course Category	DSC	SEC	AEC	MDE	VAC
Credits	12	6	2	0	2
Cumulative Summary	20	11	6	2	4

TOTAL CREDITS: 19 + 20 = 39

				17/05/2025	1.0
Chairman	Dean	Vice Principal	Principal	Date of BoS	Version



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Program: Bachelor in Computer Application Semester – II

Teaching Scheme		BCA11201: Mathematics Foundation to Computer Science - II	Examination Scheme	
Lecture	3 Hrs./Week		CT-I	15 Marks
Tutorial	-		CT-II	15 Marks
Total Credits	3		CA	10 Marks
Duration of ESE: 3 Hrs.			ESE	60 Marks
		Total	100 Marks	

Course Objectives:

- To apply logical reasoning and proof techniques to analyze and verify algorithms.
- To understand algebraic structures and use them in cryptographic applications.
- To implement numerical methods for solving computational and real-world problems.
- To formulate and solve optimization problems using linear programming techniques.

Course Contents

Unit I	Logic and Proof Techniques with Computational Applications: Propositional logic, truth tables, logical equivalence, conjunctive normal form, disjunctive normal form, quantifiers, conditional statements, tautology, contradiction, contingency, rules of inference, direct and indirect proofs, proof by contradiction, mathematical induction, algorithm correctness proofs, logical operations in programming.
Unit II	Advanced Algebraic Structures and Cryptographic Foundations: Groups, rings, fields, finite fields, homomorphisms, modular arithmetic in RSA encryption, basics of elliptic curve cryptography, implementation of group and ring operations, use of cryptographic libraries.
Unit III	Numerical Methods and Computational Algorithms: Error analysis, absolute and relative errors, stability, convergence, bisection method, Newton-Raphson method, Newton's interpolation formula, Lagrange's interpolation formula, trapezoidal rule, Simpson's rule, programming projects for data modeling and simulations.
Unit IV	Optimization Models and Linear Programming: Linear programming formulation, graphical method, simplex method, duality, transportation problems, North-West Corner Method, Vogel's Approximation Method, MODI method, industry tools for solving linear programs, integer programming, resource allocation and logistics applications.

Text Books

T.1	Kenneth H. Rosen, Discrete Mathematics and Its Applications, 7th Edition, McGraw-Hill Education.
T.2	Sastry S. S., Introductory Methods of Numerical Analysis, 5th Edition, PHL, 2022

Reference Books

R.1	Justin Solomon, Numerical Algorithms: Methods for Computer Vision, Machine Learning, and Graphics, CRC Press
R.2	C. L. Liu, Elements of Discrete Mathematics, 4th Edition, McGraw-Hill Education.
Useful Links	
1	https://archive.nptel.ac.in/courses/111/106/111106086/
2	https://archive.nptel.ac.in/courses/106/108/106108227/

	Course Outcomes	CL	Class Sessions
BCA11201.1	Apply logical reasoning and proof techniques to analyze algorithms.	3	10
BCA11201.2	Analyze algebraic structures and relate them to cryptographic systems.	4	10
BCA11201.3	Implement numerical methods for solving computational problems.	3	10
BCA11201.4	Evaluate and solve optimization problems using linear programming.	5	10






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Program: Bachelor in Computer Application Semester – II

Teaching Scheme		BCA11202: Data Structure	Examination Scheme	
Lecture	3 Hrs./Week		CT-I	15 Marks
Tutorial	-		CT-II	15 Marks
Total Credits	3		CA	10 Marks
Duration of ESE: 3 Hrs.			ESE	60 Marks
		Total	100 Marks	

Course Objectives:

1.	To understand fundamental data structures and their memory representations
2.	To analyze algorithm complexity and time-space tradeoffs
3.	To implement and operate on arrays, linked lists, stacks, queues, trees, graphs
4.	To apply appropriate data structures to solve computational problems

Course Contents

Unit I	Introduction to Data Structure: Classification, Abstract Data Types (ADT), Algorithm Complexity and Time-Space Tradeoff, Arrays, Array Memory Representation, Array Operations, Searching Algorithms, Sorting Algorithms
Unit II	Linked Lists: Linked List as ADT, Linked List Memory Representation, Types of Linked Lists, Linked List Operations
Unit III	Stacks: Stack as ADT, Stack Representation using Arrays and Linked Lists, Stack Operations, Applications of Stacks. Recursion: Recursion Notation, Applications of Recursion, Tower of Hanoi. Queue: Queue as ADT, Queue Representation using Arrays and Linked Lists, Types of Queues, Queue Operations
Unit IV	Trees: Tree as ADT, Tree Memory Representation, Binary Trees, Binary Tree Traversals, Binary Search Trees, AVL Trees. Graphs: Graph as ADT, Graph Memory Representation, Graph Traversal Algorithms

Text Books

T.1	Cormen, T. H., Leiserson, C. E., Rivest, R. L., & Stein, C. "Introduction to Algorithms," 3rd Edition, MIT Press.
T.2	Karumanchi, N. "Data Structures and Algorithms Made Easy," CareerMonk Publications.

Reference Books

R.1	Horowitz, E., Sahni, S., & Mehta, D. "Fundamentals of Data Structures in C," 2nd Edition, Universities Press.
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R.2	Brass, P. "Advanced Data Structures," Cambridge University Press.
Useful Links	
1	https://nptel.ac.in/courses/106102064
2	https://www.youtube.com/playlist?list=PLBF3763AF2E1C572F

	Course Outcomes	CL	Class Sessions
BCA11202.1	Describe fundamental data structures and their operations.	1	10
BCA11202.2	Apply appropriate data structures to solve computational problems.	3	10
BCA11202.3	Analyze algorithm efficiency and data structure suitability.	4	10
BCA11202.4	Design and implement solutions using advanced data structures.	6	10






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Program: Bachelor in Computer Application Semester – II

Teaching Scheme		BCA11203: Data Structure Lab	Examination Scheme	
Practical	4 Hrs./Week		CT-I	-
Tutorial	-		CT-II	-
Total Credits	2		CA	25 Marks
Duration of ESE: 2 Hrs.			ESE	25 Marks
		Total	50 Marks	

Course Objectives:

- To implement and analyze fundamental linear and nonlinear data structures.
- To apply searching and sorting algorithms to solve computational problems.
- To develop recursive solutions and utilize stack and queue operations.
- To construct and traverse trees and graphs programmatically.

Sr. No.	List of Practical
1	Write a program for insertion and deletion operations in an array.
2	Write a program to search for an element in an array using Linear Search and Binary Search.
3	Write a program to sort an array using Bubble Sort, Selection Sort, and Insertion Sort.
4	Write a program to insert an element into a Singly Linked List: a) At the beginning b) At the end c) At a specified position
5	Write a program to delete an element from a Singly Linked List: a) At the beginning b) At the end c) A specified element
6	Write a program to implement stack operations using an array.
7	Write a program to evaluate a postfix expression using a stack.
8	Write a program to implement simple queue operations using an array.
9	Write a program to perform the following using recursion: a) Find the factorial of a number b) Find the GCD of two numbers

	c) Solve Towers of Hanoi problem
10	Write a program to represent a graph using adjacency matrix and adjacency list
Text Books	
T.1	Data Structures and Algorithms Made Easy, Narasimha Karumanchi, CareerMonk Publications.
T.2	Algorithms by Robert Sedgewick and Kevin Wayne, Addison-Wesley.
Reference Books	
R.1	Advanced Data Structures, Peter Brass, Cambridge University Press.
R.2	The Art of Computer Programming, Volume 1: Fundamental Algorithms, Donald E. Knuth, Addison-Wesley
Useful Links	
1	https://nptel.ac.in/courses/106102064
2	https://www.youtube.com/playlist?list=PLBF3763AF2E1C572F

	Course Outcomes	CL	Class Session
BCA11103.1	Describe and explain fundamental data structures and operations.	2	6
BCA11103.2	Implement and apply basic searching and sorting algorithms.	3	6
BCA11103.3	Analyze and compare different data structures for problem-solving.	4	6
BCA11103.4	Design and create solutions using trees and graphs.	6	6






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Program: Bachelor in Computer Application Semester – II

Teaching Scheme		BCA11204: Operating Systems	Examination Scheme	
Lecture	3 Hrs./Week		CT-I	15 Marks
Tutorial	-		CT-II	15 Marks
Total Credits	3		CA	10 Marks
Duration of ESE: 3 Hrs.			ESE	60 Marks
		Total	100 Marks	

Course Objectives:

1.	To understand OS fundamentals, architecture, and various operating system types.
2.	To explain process management, scheduling, and multithreading concepts in OS.
3.	To analyze process synchronization and deadlock handling mechanisms in OS.
4.	To describe memory management, virtual memory, and I/O management techniques.

Course Contents

Unit I	<p>Operating Systems Overview: Definition, Evaluation of O.S, Components & Services of OS, Structure, Architecture, types of Operating Systems, Batch Systems, Concepts of Multiprogramming and Time Sharing, Parallel, Distributed and real time Systems.</p> <p>Operating Systems Structures: Operating system services and systems calls, system programs, operating system structure, operating systems generations.</p>
Unit II	<p>Process Management: Process Definition, Process states, Process State transitions, Process Scheduling, Process Control Block, Threads, Concept of multithreads, Benefits of threads, Types of threads.</p> <p>Process Scheduling: Definition, Scheduling objectives, Scheduling algorithms, CPU scheduling Preemptive and Non-preemptive Scheduling algorithms (FCFS, SJF and RR), Performance evaluation of the scheduling Algorithms</p>
Unit III	<p>Process Synchronization: Introduction, Inter-process Communication, Race Conditions, Critical Section Problem, Mutual Exclusion, Semaphores, Monitors.</p> <p>Deadlocks: System model, deadlock characterization, deadlock prevention, avoidance, Banker's algorithm, Deadlock detection, and recovery from deadlocks</p>
Unit IV	<p>Memory Management: Logical and Physical address map, Swapping, Memory allocation, MFT, MVT, Internal and External fragmentation and Compaction, Paging, Segmentation.</p> <p>Virtual Memory: Demand paging, Page Replacement algorithms, Allocation of frames, thrashing.</p> <p>I/O Management: Principles of I/O Hardware: Disk structure, Disk scheduling algorithms.</p>

Text Books

T.1	Silberschatz, A., Galvin, P. B., & Gagne, G., Operating System Concepts (10th Edition), Wiley, 2018.
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T.2	Arpaci-Dusseau, R. H., & Arpaci-Dusseau, A. Operating Systems: Three Easy Pieces, Arpaci Dusseau Books, 2018
Reference Books	
R.1	Tanenbaum, A. S., & Bos, H. Modern Operating Systems (4th Edition), Pearson, 2014
R.2	Stallings, W. Operating Systems: Internals and Design Principles (9th Edition), Pearson, 2017
Useful Links	
1	https://archive.nptel.ac.in/courses/106/102/106102132/
2	https://onlinecourses.nptel.ac.in/noc21_cs72/preview

	Course Outcomes	CL	Class Session
BCA11104.1	Recall types, components, and structures of operating systems	1	10
BCA11104.2	Apply process scheduling algorithms to solve process management problems	3	10
BCA11104.3	Analyze synchronization and deadlock scenarios in concurrent processes	4	10
BCA11104.4	Analyze memory management and I/O scheduling techniques in operating systems	4	10






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Program: Bachelor in Computer Application Semester – II

Teaching Scheme		BCA11205: Operating Systems Lab	Examination Scheme	
Practical	2 Hrs./Week		CT-I	-
Tutorial	-		CT-II	-
Total Credits	1		CA	25 Marks
Duration of ESE: 2 Hrs.			ESE	25 Marks
		Total	50 Marks	

Course Objectives:

- Understand and implement fundamental operating system algorithms in C.
- Analyze process scheduling and memory management techniques practically.
- Apply synchronization and deadlock avoidance methods in real scenarios.
- Demonstrate Linux command-line proficiency for system administration tasks.

Sr. No.	List of Practical
1	Illustrate the IPC mechanism using Pipes by writing a C program.
2	Simulate the FCFS CPU Scheduling algorithm using a C program.
3	Simulate the SJF CPU Scheduling algorithm using a C program.
4	Simulate the Round Robin CPU Scheduling algorithm using a C program.
5	Implement the Producer–Consumer problem using semaphores in C.
6	Simulate Bankers Algorithm for Deadlock Avoidance using a C program.
7	Simulate Paging memory management technique using a C program.
8	Simulate Segmentation memory management technique using a C program.
9	Demonstrate basic Linux file and process management commands using a shell script.
10	Demonstrate file permissions and ownership in Linux using a shell script.

Text Books

T.1	Silberschatz, A., Galvin, P. B., & Gagne, G., Operating System Concepts, 10th Edition, Wiley,
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	2018.
T.2	Tanenbaum, A. S., & Bos, H., Modern Operating Systems, 4th Edition, Pearson, 2014.
Reference Books	
R.1	Arpaci-Dusseau, R. H., & Arpaci-Dusseau, A. C., Operating Systems: Three Easy Pieces, Arpaci-Dusseau Books, 2018
R.2	Kerrisk, M., The Linux Programming Interface: A Linux and UNIX System Programming Handbook. No Starch Press, 2010
Useful Links	
1	https://archive.nptel.ac.in/courses/106/105/106105214/
2	https://www.youtube.com/playlist?list=PLf3ZkSCyj1tdCS2oCYACXO6x-VKpDIMB6

	Course Outcomes	CL	Class sessions
BCA11205.1	Explain fundamental operating system concepts and structures.	2	6
BCA11205.2	Apply process scheduling and memory management algorithms using C.	3	6
BCA11205.3	Analyze synchronization and deadlock scenarios in concurrent systems.	4	6
BCA11205.4	Create shell scripts for Linux-based system administration tasks.	6	6






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Program: Bachelor in Computer Application Semester – II

Teaching Scheme		BCA11206: Object Oriented Programming	Examination Scheme	
Lecture	3 Hrs./Week		CT-I	15 Marks
Tutorial	-		CT-II	15 Marks
Total Credits	3		CA	10 Marks
Duration of ESE: 2 Hrs.			ESE	60 Marks
		Total	100 Marks	

Course Objectives:

- To understand OOP fundamentals and language basics in Java and C++
- To apply core programming constructs and control structures effectively.
- To implement classes, inheritance, and advanced OOP features.
- To utilize modularity, exception handling, and advanced programming concepts.

Course Contents

Unit I	Introduction to Object Oriented Programming: Fundamentals of Object Oriented Programming, benefits and applications of OOP, programming paradigms: procedural vs object-oriented, evolution and history of Java and C++, key differences between Java and C++, Java features, JVM, Java program structure, Java tokens, command line arguments, C++ program structure, tokens, keywords, identifiers, variables, data types, input/output operations.
Unit II	Core Programming Constructs: Constants, variables, data types, declaration and initialization, symbolic constants, typecasting, input/output in Java and C++, operators, expressions, operator precedence and associativity, type conversions, decision-making statements, looping statements, jump statements.
Unit III	Classes, Objects, and Advanced OOP Features: Defining classes and objects, access specifiers, constructors and destructors, constructor overloading, method overloading, static members, inheritance and its types, method overriding, use of super (Java) and base (C++), abstract classes and interfaces (Java), pure virtual functions and abstract classes (C++), arrays (1D, 2D, dynamic), strings: Java String class, C++ string library, collections, wrapper classes, enumerated types.
Unit IV	Packages, Namespaces, Exception Handling: Java packages (system and user-defined), C++ namespaces, header files, exception handling in Java, user-defined exceptions in java, exception handling in C++, standard and user-defined exceptions in C++, file I/O, multithreading basics: Java Thread class, Runnable interface; C++11 threads, GUI basics: JavaFX/Swing; Qt/WinAPI, design patterns: Singleton, Factory, Observer, unit testing frameworks: JUnit for Java, Google Test for C++, software engineering principles, version control basics.

Text Books	
T.1	Herbert Schildt, "Java: The Complete Reference", 12th Edition, McGraw-Hill.
T.2	Stanley B. Lippman, José Lajoie, Barbara E. Moo, "C++ Primer", 5th Edition, Addison-Wesley.
Reference Books	
R.1	Cay S. Horstmann, Gary Cornell, "Core Java Volume I – Fundamentals", 12th Edition, Prentice Hall.
R.2	Scott Meyers, "Effective C++: 55 Specific Ways to Improve Your Programs and Designs", 3rd Edition, Addison-Wesley.
Useful Links	
1	https://onlinecourses.nptel.ac.in/noc22_cs47/preview
2	https://onlinecourses.nptel.ac.in/noc21_cs02/preview

	Course Outcomes	CL	Class sessions
BCA11206.1	Describe OOP concepts and language features.	1	7
BCA11206.2	Apply programming constructs to solve problems.	3	7
BCA11206.3	Analyze and implement advanced OOP features.	4	7
BCA11206.4	Develop modular, robust code using advanced techniques.	6	7






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Program: Bachelor in Computer Application Semester – II

Teaching Scheme		BCA11207: Object Oriented Programming using Java and C++ Lab	Examination Scheme	
Practical	4 Hrs./Week		CT-I	-
Tutorial	-		CT-II	-
Total Credits	2		CA	25 Marks
Duration of ESE: 2 Hrs.			ESE	25 Marks
		Total	50 Marks	

Course Objectives:

- To develop object-oriented programs using Java and C++ core features.
- To implement inheritance, polymorphism, and exception handling in applications.
- To apply multithreading and GUI design for interactive software solutions.
- To organize code using packages, namespaces, and modular programming principles.

Sr. No.	List of Practical
1	Apply the concept of command line arguments to process user input at runtime in Java and C++ programs.
2	Demonstrate implicit and explicit type conversions between different data types in Java and C++.
3	Construct programs utilizing decision making, looping, and jump statements to control program flow.
4	Implement constructors and destructors to manage object initialization and cleanup in Java and C++.
5	Illustrate multilevel inheritance and demonstrate the use of super (Java) and base (C++) keywords to access parent class members.
6	Differentiate between method overloading and overriding by developing programs that exhibit both concepts in Java and C++.
7	Create and utilize user-defined packages (Java) or namespaces (C++) to organize and encapsulate code modules.
8	Develop exception handling mechanisms to handle divide by zero errors gracefully in Java and C++.
9	Construct concurrent programs using Thread class and Runnable interface in Java, and C++11 threads, to analyze basic multithreading concepts.
10	Design simple graphical user interfaces using Swing (Java) and Qt (C++) frameworks to demonstrate event-driven programming.

Text Books

T.1	E. Balagurusamy, Object Oriented Programming with C++, 8th Edition, McGraw Hill
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	Education, 2020.
T.2	Herbert Schildt, Java: The Complete Reference, 12th Edition, McGraw Hill Education, 2022.
Reference Books	
R.1	Bjarne Stroustrup, The C++ Programming Language, 4th Edition, Addison-Wesley, 2013.
R.2	Kathy Sierra, Bert Bates, Head First Java, 3rd Edition, O'Reilly Media, 2022.
Useful Links	
1	https://onlinecourses.nptel.ac.in/noc25_cs34/preview
2	https://www.shiksha.com/online-courses/programming-in-java-by-nptel-course-nptel22

	Course Outcomes	CL	Class sessions
BCA11205.1	Apply command line arguments and type conversions in Java and C++.	3	6
BCA11205.2	Analyze and implement decision making, looping, and exception handling constructs.	4	6
BCA11205.3	Design object-oriented solutions using inheritance, polymorphism, and modularization.	6	6
BCA11205.4	Develop multithreaded and GUI-based applications using Java and C++.	5	6






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Program: Bachelor in Computer Application Semester – II

Teaching Scheme		BCA11208: Web Technology Lab	Examination Scheme	
Practical	4 Hrs./Week		CT-I	-
Tutorial	-		CT-II	-
Total Credits	2		CA	25 Marks
Duration of ESE: 2 Hrs.			ESE	25 Marks
		Total	50 Marks	

Course Objectives:

- To understand fundamental concepts of HTML, CSS, and web technologies.
- To apply client-side scripting for dynamic, interactive web page development.
- To design and validate web forms using JavaScript and CSS.
- To create and display structured data using XML and related tools.

Sr. No.	List of Practical
1	Design a basic HTML page displaying your name, course, and a short introduction using headings, paragraphs, and line breaks
2	Create a web page that uses ordered, unordered, and definition lists. Add hyperlinks for navigation between sections and to external sites
3	Build a registration form with input fields for name, email, phone, address, and course selection using HTML forms
4	Add internal, external, and inline CSS to a previously created HTML page to style text, backgrounds, borders, and layout
5	Use HTML and CSS to design a responsive layout with a navigation bar, sidebar, and main content area that adjusts to different screen sizes
6	Write a JavaScript program to validate the registration form for empty fields and correct email format before submission
7	Create a web page with an image map. Define clickable hotspots that display information or navigate to different sections when clicked
8	Write an XML document to store student details. Use a simple HTML or JavaScript program to display the data in a table format
9	Create a web page where users can enter numbers and see the sum, average, or other calculations performed dynamically using JavaScript
10	Combine HTML, CSS, and JavaScript to design a multi-page static website for a college department, including a home page, faculty list, events, and a contact form

Text Books

T.1	Duckett, Jon. HTML and CSS: Design and Build Websites. Wiley
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T.2	Robbins, Jennifer Niederst. Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics. O'Reilly Media, 5th Edition
Reference Books	
R.1	Haverbeke, Marijn. Eloquent JavaScript: A Modern Introduction to Programming. No Starch Press, 3rd Edition
R.2	JavaScript: The Definitive Guide, David Flanagan, O'Reilly Media, 7th Edition
Useful Links	
1	https://nptel.ac.in/courses/106105084
2	https://nptel.ac.in/courses/106106156

	Course Outcomes	CL	Class sessions
BCA11208.1	Recall basic HTML and CSS tags for web development.	1	6
BCA11208.2	Explain the structure and purpose of web page components.	2	6
BCA11208.3	Apply JavaScript to create interactive web form validations.	3	6
BCA11208.4	Design and develop a multi-page static website project.	6	6






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Program: Bachelor in Computer Application Semester – II

Teaching Scheme		BBA11206: Indian Constitution	Examination Scheme	
Lecture	2 Hrs./Week		CT-I	07 Marks
Tutorial	-		CT-II	07 Marks
Total Credits	2		CA	06 Marks
Duration of ESE: 2 Hrs.			ESE	30 Marks
		Total	50 Marks	

Course Objectives:

1.	To understand history, structure, Preamble, rights, duties, and state policy.
2.	To explain roles, powers, structures of Union and State governments.
3.	To describe local administration: district, municipal, and panchayat governance systems.
4.	To analyze Election Commission's structure, roles, and electoral functioning in India.

Course Contents

Unit I	The Constitution – Introduction: The History of the Making of the Indian Constitution, Preamble and the Basic Structure, and its interpretation, Fundamental Rights and Duties and their interpretation, State Policy Principles
Unit II	Union Government: Structure of the Indian Union, President – Role and Power, Prime Minister and Council of Ministers, Lok Sabha and Rajya Sabha State Government: Governor – Role and Power, Chief Minister and Council of Ministers, State Secretariat
Unit III	Local Administration: District Administration, Municipal Corporation, Zila Panchayat
Unit IV	Election Commission: Role and Functioning, Chief Election Commissioner, State Election Commission

Text Books

T.1	Basu, D.D. (2023). Introduction to the Constitution of India. LexisNexis.
T.2	Jain, M.P. (2022). Indian Constitutional Law. LexisNexis.

Reference Books

R.1	Shukla, V.N. (2024). Constitution of India (Revised by Mahendra Pal Singh). Eastern Book Company.
R.2	Bakshi, P.M. (2023). The Constitution of India. Universal Law Publishing.

Useful Links

1	https://www.constitution.org/cons/india/const.html
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	Course Outcomes	CL	Class sessions
BCA11108.1	Recall key features and principles of the Indian Constitution.	1	7
BCA11108.2	Explain the structure and functions of Union and State governments.	2	7
BCA11108.3	Apply knowledge to describe local administrative systems in India.	3	7
BCA11108.4	Analyze the role and functioning of the Election Commission.	4	7

