DEPARTMENT OF COMPUTER APPLICATIONS
DHARMANAND UNIYAL GOVERNMENT DEGREE COLLEGE NARENDRANA
TEHRI GARHWAL, UTTARAKHAND

Program Name: - ***Bachelor of Computer Application (BCA)***

Program Outcomes

S.No.	Outcomes
1	Gain a complete exposure to the theories and practices of Computer Applications.
2	Transformed the students into a skilled learner and active programmer and motivate them to pursue higher studies in this field.
3	BCA graduates should be capable of designing, developing, and implementing software applications using various programming languages and tools.
4	BCA programs emphasize critical thinking and problem-solving skills, enabling graduates to approach complex technical challenges with logical solutions.
5	Graduates should be able to analyze user requirements, design system architectures, and develop efficient solutions to meet business needs.

Program Specific Outcomes

Certificate in Computer Applications

S.No.	Outcomes
1	Bridge the fundamental concepts of computers with the present level of knowledge of the students.
2	Apply applications for a range of problems using object-oriented programming Techniques.
3	Understand various techniques of data organisation.

Diploma in Computer Applications

S.No.	Outcomes
1	Understand Digital Computer and Digital Systems.
2	Learn fundamentals of Database Management System
3	Create, Maintain, and query MySQL database

Degree in Computer Applications

S.No.	Outcomes
1	To understand the basics and intermediate-level soft skills.
2	To understand of the traditional and current technologies and practices in the world of Computers and digital platforms.
3	To Gain knowledge of the fundamentals and intermediate-level concepts of Computer

Course Outcomes Semester - I

Course Name: BCA102: Fundamental of Computers	
CO1	Bridge the fundamental concepts of computers with the present level of knowledge.
CO2	Enable to understand binary, hexadecimal and octal number systems and their arithmetic.

CO3	Familiarize operating systems, programming languages, peripheral devices, networking, multimedia and internet
COURSE TITLE: - BCA101 : Programming in 'C' (Theory + Practical)	
CO1	Enable to understand the history of programming language and C-programming.
CO2	Enable to understand the library functions of C.
CO3	Familiarize the concept of variables, decision making, loops, arrays and functions in C programming.
CO4	Implement Programs to showcase the use of branching.
CO5	Implement Programs to showcase the use of looping.
COURSE TITLE: - Mathematical foundation of Computer Science (BCA103)	
CO1	Enable to understand the concepts of sets, relations, predicate calculus and groups.
CO2	Grasp the principles of mathematical logic and its applications in computer science, such as Boolean algebra and truth tables.
CO3	Grasp the principles of mathematical logic and its applications in computer science, such as Boolean algebra and truth tables.
COURSE TITLE: - Business Communications (BCA104)	
CO1	Develop the ability to write clear, concise, and well-structured business documents such as emails, memos, reports, and proposals.
CO2	Enhance oral communication skills for presentations, meetings, and interpersonal interactions within a business setting.
CO3	Acquire skills to create and deliver engaging and informative business presentations using visual aids and effective speaking techniques.

Course Outcomes Semester - II

COURSE TITLE: - Data Structure & File Organization (BCA201)	
CO1	Understand concepts such as Data Organizations, Need of Data Structures, Types of Data Structure, Algorithm Complexity, and Time-Space trade-off.
CO2	Understand and apply data structures such as Stacks, Queues, Arrays, and Linked List.
CO3	Understand the concept of different searching and sorting algorithms.
CO4	Enable to implement stack, queues, link lists, sorting and searching algorithms.
COURSE TITLE: - Programming in C++ (BCA202)	
CO1	Enable to understand the different programming paradigm and approaches.
CO2	To familiarize the basics of OOP like abstraction, encapsulation, polymorphism and inheritance.
CO3	To understand the concept of class and objects.
CO4	To develop the programming skills in C++ programming.
CO5	To enable to write programs for implementing class, object, inheritance and polymorphism.

DEPARTMENT OF COMPUTER APPLICATIONS
DHARMANAND UNIYAL GOVERNMENT DEGREE COLLEGE NARENDRANA
TEHRI GARHWAL, UTTARAKHAND

COURSE TITLE: - System Analysis and Design (BCA203)	
CO1	Graduates should be able to analyze user requirements, design system architectures, and develop efficient solutions to meet business needs.
CO2	To familiarize with system development life cycle and its stages.
CO3	To familiarize with different approaches for system development.
COURSE TITLE: - Digital Electronics (BCA204)	
CO1	Understand Digital Computer and Digital Systems.
CO2	Understand the logic and applications of Boolean algebra and logic gates.
CO3	Understand the basics of computer organization and Design.

Course Outcomes Semester – III

COURSE TITLE: - Data Base Management System (BCA302)	
CO1	Understand the fundamentals of Database Management System
CO2	Understand RDBMS Concepts like Normalization and Functional Dependencies
CO3	Apply Normalization Concepts to create Redundancy Free Databases.
CO4	Enable to Create MySQL database and Evaluate MySQL queries.
COURSE TITLE: - Theory of Computation (BCA303)	
CO1	Understand finite automata and regular languages, including their applications in pattern recognition and lexical analysis.
CO2	Explore formal language theory, context-free grammars, and the Chomsky hierarchy, which underlie the structure of programming languages.
CO3	Gain insights into Turing machines and their significance in defining the concept of computability and computational complexity.
COURSE TITLE: - Organization Structure and Personnel Management(BCA304)	
CO1	Gain a deep understanding of the fundamental concepts and theories related to human behavior in organizational settings, including individual, group, and organizational levels of analysis.
CO2	Understand the dynamics of teamwork, group formation, and collaboration. Develop the ability to work effectively in teams and contribute positively to group outcomes.
CO3	Explore theories of motivation and their application in the workplace. Understand how to enhance employee motivation and job satisfaction to improve performance.
CO4	Develop critical thinking and problem-solving skills to address organizational challenges.

DEPARTMENT OF COMPUTER APPLICATIONS
DHARMANAND UNIYAL GOVERNMENT DEGREE COLLEGE NARENDRANA
TEHRI GARHWAL, UTTARAKHAND

Course Outcomes Semester – IV

COURSE TITLE: - Operating system Organization (BCA401)	
CO1	Gain a deep understanding of core operating system concepts, including processes, threads, memory management, file systems, input/output, and inter-process communication.
CO2	Learn about the architectural components of an operating system, including the kernel, user space, system calls, and libraries.
CO3	Understand how processes are created, scheduled, and managed by the operating system. Learn about process synchronization, scheduling algorithms, and multi-threading.
CO4	Explore different memory management techniques, such as paging, segmentation, virtual memory, and memory allocation. Understand how the operating system manages memory resources efficiently.
CO5	Learn about file systems, directory structures, file operations, and access control mechanisms. Understand how the operating system manages and organizes file storage.
CO6	Gain insights into device management, including device drivers, I/O operations, and handling different types of devices such as disks, printers, and network interfaces.
COURSE TITLE: - Visual Basic Programming (BCA402)	
CO1	Understand the features of VB Programming
CO2	To familiarize with IDE of VB.
CO3	To learn to design and implement front end of an application.
CO4	To learn to connect to a back end using different database connectivity modules.
COURSE TITLE: - Software Engineering (BCA403)	
CO1	Understand the different models of system implementation.
CO2	Understand the different types of software testing techniques.
COURSE TITLE: - Data Communication & Computer Networks	
CO1	Remember the fundamentals of Networking
CO2	Understand Networking Models.
CO3	Evaluate various Networking Devices and understand their workings.
CO4	Analyze Technologies and Protocols of First Four Layers of OSI Models.

Course Outcomes Semester – V

COURSE TITLE: - Computer Graphics (BCA501)	
CO1	Remember the fundamentals of generating graphics using a computer
CO2	Understand various 2D shapes drawing Algorithms.
CO3	Analyze various Computer Graphics Transformation Operations.
CO4	Create programs to demonstrate the various Computer Graphics Algorithms.
COURSE TITLE: - Web Programming using JAVA (BCA502)	
CO1	Understand the features of JAVA programming
CO2	Familiarize with JVM and its working.