

Yashwantrao Chavan College of Science, Karad

Department of Computer Science

B.Sc. Computer Science (Entire)

Program Outcomes (POs):

Upon successful completion of the B.Sc. Computer Science (Entire) the student should have met the following Student Learning Outcomes:

PO1	Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and applied sciences.
PO2	Apply computer science theory and software development fundamentals to produce computing-based solutions.
PO3	The education objectives of the major to produce graduates who possess: A sound technical foundation in computer science and the ability to creatively apply computer and related technologies to practical problems.
PO4	An understanding of professional, ethical, legal, security, and social issues and responsibilities for the computing profession.
PO5	Create, select, and apply appropriate techniques, resources, and modern computing and IT tools including prediction and modeling to complex scientific activities with an understanding of the limitations.
PO6	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
PO7	Students will be prepared for a career in an information technology oriented business or industry, or for graduate study in computer science.
PO8	An ability to analyze impacts of computing on individuals, organizations, and society.
PO9	An ability to apply knowledge of computing and mathematics appropriate to the discipline.
PO10	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

Program Specific Outcomes (PSOs):

PSO1	Apply fundamental principles and methods of computer science to a wide range of applications.
PSO2	Design, correctly implement and document solutions to significant computational problems.
PSO3	Develop ability to pursue advanced studies and research in computer science.
PSO4	To produce entrepreneurs who can innovate and develop software products.
PSO5	Individual and group study projects and assignments involving individual and team work encourage knowledge sharing and communication.


Head
Department of Computer Science
Yashwantrao Chavan College of Science,
Karad




Principal
Yashwantrao Chavan College of Science
Karad

Course Outcomes (COs)

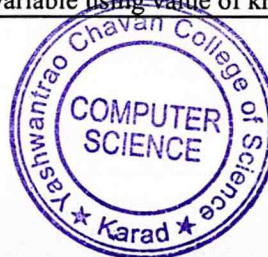
B.Sc. Computer Science (Entire) Part I Semester I	
Course Code: DSC-101: Computer Paper-I	
Course Title: Fundamentals of Computer	
CO1	The students are able to understand basic components in computers.
CO2	Understand basic system software and its applications software
CO3	Understand basic computer hardware and network system
CO4	Understand basic network protocols
Course Code: DSC-102: Computer Paper-II	
Course Title: Programming in 'C' Part-I	
CO1	Describe the basics of computer and understand the problem solving aspect.
CO2	Ability to develop programs of 'C' using Ubuntu Linux Operating System
CO3	Design and develop C program to evaluate simple expressions and logical operations.
CO4	Demonstrate the algorithm and flow chart for the given problem.
CO5	Design programs using operators available in C.
CO6	Understand the need for data types in programming.
CO7	Write modular programs using suitable control structure.
Course Code: GEC-103: Electronics Paper-I	
Course Title: Electronics Devices and Circuits-I	
CO1	Understand basic components in computer
CO2	Understand PN junction diode and its applications
CO3	Bipolar Junction Transistors and Applications of Bipolar junction Transistor
Course Code: GEC-104: Electronics Paper-II	
Course Title: Digital Electronics I	
CO1	Understand different number systems and codes
CO2	Understand logic gates and basics of Boolean algebra
CO3	Study the combinational logic, Encoders,Decoders
CO4	Acquire skills in sequential circuits and counters
Course Code: GEC-105: Mathematics Paper-I	
Course Title: Discrete Mathematics	
CO1	To understand logical concepts and to show logical equivalences by using truth tables and rules in logics
CO2	Learn concept related to counting
CO3	Introduction to advanced counting
Course Code: GEC-106: Mathematics Paper-II	
Course Title: Algebra	
CO1	Learn to solve system of linear equation
CO2	Learn to solve Diophantine equation
CO3	Learn to find roots of polynomial over rational
CO4	Learn to find graphs, roots and primes integer using maxima software
CO5	Introduction to complex analysis
Course Code: GEC-107: Statistics Paper- I	
Course Title: Descriptive Statistics	



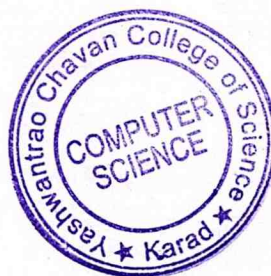
CO1	Knowing the concepts of data, classification of data ,graphical methods to Condense the data
CO2	Knowing how to condense the data into single value which is part of central tendency
CO3	Ability to study variation between the data and comparison between data sets
CO4	Knowing the departure from symmetry, shape and height of frequency curve
Course Code: GEC-108: Statistics Paper– II	
Course Title: Probability Theory and Discrete Probability Distributions	
CO1	Knowing the concept of permutation, combination and probability
CO2	Ability to knowing of independence of events, concept of conditional probability
CO3	Knowledge of discrete random variable, it's pmf, cdf, mean and variance
CO4	Ability of studying discrete distributions like Uniform, Binomial and Poisson
Course Code: AECC-A: English paper-I	
CO1	To acquaint students with communication skills.
CO2	To inculcate human values among the students through poems and prose.
CO3	To improve the language and business competence of the students.



B.Sc. Computer Science (Entire) Part I Semester II	
Course Code: DSC-201: Computer Paper-III	
Course Title: Linux Operating System	
CO1	After studying this course the students are able to understand basic computer operating system
CO2	Understand basic applications software for this operating system
CO3	Understand basic shell programming
CO4	Understand basic concept of internet
CO5	Understand basic internet protocols
Course Code: DSC-202: Computer Paper-IV	
Course Title: Programming in 'C' Part-II	
CO1	Develop & Implement C programs with suitable modules to solve the given problem
CO2	Develop structured programs using function
CO3	Demonstrate the concept of pointer and perform I/O operations in files
CO4	Design and develop solutions to real world
Course Code: GEC-203: Electronics Paper- III	
Course Title: Electronics Devices and Circuits -II	
CO1	Understand FET and applications of it
CO2	Study the amplifiers and oscillators
CO3	Understand Concept of Differential Amplifier and Comparator
Course Code: GEC-204: Electronics	
Paper- IV Course Title: Digital Electronics- II	
CO1	Understand Multivibrators and its types
CO2	Study Memory Devices and its Types
CO3	Study features, pin diagram and architecture of 8085
CO4	Understanding the instruction set of 8085 and programming
Course Code: GEC-205: Mathematics Paper-III	
Course Title: Graph Theory	
CO1	To introduce the concept of graphs
CO2	To Study different types of graphs and operations on graphs
CO3	To Study concept of Trees in detail and algorithms to find special spanning trees
CO4	To study directed graph and its applications
Course Code: GEC-206: Mathematics Paper-IV	
Course Title: Calculus	
CO1	Student will be to understand differentiation and fundamental theorem indifferentiation and variousrules
CO2	Geometrical representation and problem solving on MVT and Rollstheorem
CO3	Finding extreme values offunction
CO4	Introduction to Ordinary DifferentialEquation
Course Code: GEC-207: Statistics Paper- III	
Course Title: Descriptive Statistics- II	
CO1	Knowledge of bivariate data , correlation, types of correlation and methods to study it
CO2	Knowing of estimation of value of unkown variable using value of known variable



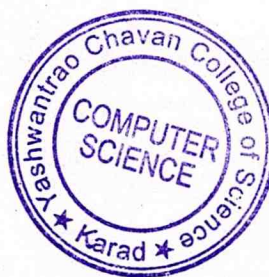
CO3	Ability of studying correlation and regression for trivariate
Course Code: GEC-208: Statistics Paper– IV	
Course Title: Continuous Probability Distributions and Testing of Hypothesis	
CO1	Ability of studying continuous random variable, it's pdf, mean, variance and cdf
CO2	Knowledge of continuous probability distribution like Uniform, Exponential, Normal, t and F with their properties
CO3	Knowing importance of testing of hypothesis using statistical methods
Course Code: AECC-B: English paper-II	
CO1	To acquaint students with communication skills.
CO2	To inculcate human values among the students through poems and prose.
CO3	To improve the language and business competence of the students.



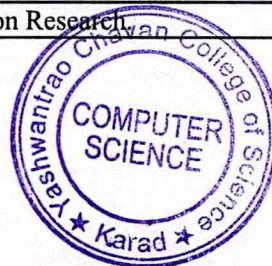
B.Sc. Computer Science (Entire) Part II Semester III	
Course Code: DSC-301: Computer Paper - V	
Course Title: RDBMS With MySQL	
CO1	Understand the concept of Database, Database management system Concept of Data models
CO2	Understand of MySQL with different Commands (Create, insert, select, update, Delete)
CO3	Understand different SQL Operators, functions and clauses
CO4	Design & develop proper database and get Knowledge of Sub Queries and Joins
Course Code: DSC-302: Computer Paper - VI	
Course Title: Object Oriented Programming using C++	
CO1	Understand basic concepts of object-oriented programming and Use of various control structures to improve programming logic.
CO2	Design classes, objects and functions
CO3	Use constructor and destructor
CO4	Implement inheritance and polymorphism concept
Course Code: SEC-III: Skill Enhancement Course – III	
Course Title: HTML & CSS (Web Technology)	
CO1	Understand basic as well as advanced concepts of HTML
CO2	Understand basics of CSS to design a page
CO3	Design and develop website using HTML and CSS
Course Code: GEC -303: Electronics Paper-V	
Course Title: Computer Organization	
CO1	Understand code converters, digital comparators and counter design.
CO2	Understand design of memory system with its expansion and mapping techniques
CO3	Understand various data transfer techniques in digital computer and the I/O interfaces
CO4	Understand the basics of register, stack, organization and study of ALU with instruction format
Course Code: GEC -304: Electronics Paper-VI	
Course Title: Computer Instrumentation	
CO1	Describe the working principle, selection criteria and applications of various transducers used in instrumentation systems
CO2	Gain knowledge about different type of signal conditioning circuits, data converters
CO3	Understand various types of Actuators and Data Acquisition systems
CO4	Understand construction, working principle of different types of digital instruments and display devices
Course Code: GEC -305: Mathematics Paper-V	
Course Title: Linear Algebra	
CO1	Understand the concept of linear transformation and its application to real life



CO2	Evaluate mathematical expressions to compute quantities that deal with linear systems and eigenvalue problems
CO3	Analyze mathematical statements and expressions
CO4	Reason mathematically. Understand the notion of vector space, subspace, basis.
Course Code: GEC -306: Mathematics Paper-VI	
Course Title: Numerical Methodsa	
CO1	Understand how to find the roots of transcendental equations.
CO2	Understand learn numerical solution of differential equations
CO3	Understand how to find the roots of transcendental equations
CO4	Understand how to interpolate the given set of values



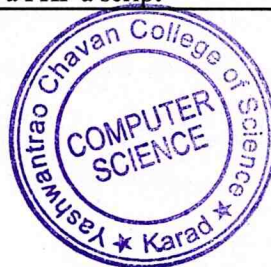
B.Sc. Computer Science (Entire) Part II Semester IV	
Course Code: DSC-401: Computer Paper-VII	
Course Title: Data structure using C+	
CO1	Understand concept of data structure and concept of array operations and applications of array.
CO2	Understand different sorting and searching algorithms for problem solving
CO3	Implement algorithms to solve problems using appropriate data structures
CO4	Understand implementations of linked list and basics of Trees
Course Code: DSC-402: Computer Paper-VIII	
Course Title: System Analysis & Design	
CO1	Understand concept of system, life cycle of system, different fact-finding techniques in system analysis.
CO2	Design different charting techniques like decision table, decision trees, ERD, DFD to develop a system
CO3	Understand input and output design of a system and also different testing techniques
CO4	Design different systems using system development life cycle
Course Code: SEC-IV: Skill Enhancement Course – IV	
Course Title: Java Script	
CO1	Understand basics of Java Script
CO2	Design a web page to interact with user
CO3	Handle different events like mouse, key, focus for user interaction
CO4	Design web form using JQuery
Course Code: GEC -403: Electronics Paper-VII	
Course Title: Microcontroller Architecture and Programming	
CO1	Understand the architecture of 8051 microcontroller and its comparative family.
CO2	Understand the detailed Instruction set of 8051 with addressing modes
CO3	Understand Facilities in 8051 viz Timer, Counter, Delay calculations and Serial Communication with its operating modes
CO4	Understand 8051 and Real-world interfacing using I/O peripherals
Course Code: GEC -404: Electronics Paper-VIII	
Course Title: Principles of Electronics Communication	
CO1	Understand the functioning of basic communication system.
CO2	Understand the concept of basic analog modulation techniques
CO3	Understand digital modulation and demodulation techniques
CO4	Understand wireless communication systems and mobile communication concept
Course Code: GEC -405: Mathematics Paper-VII	
Course Title: Computational Geometry	
CO1	Understand how to represent point, lines, transformations and matrices,
CO2	Understand how to Various types of transformations
CO3	Solve multiple transformation and projection on three dimensional
CO4	Understand the concepts curve, its properties and B-spline curve
Course Code: GEC -406: Mathematics Paper-VIII	
Course Title: Operation Research	
CO1	To learn about characteristics, scope of operation Research



CO2	Understand the Assignment problem
CO3	Understand the Transportation problem Initial Solution and Optimization
CO4	To know the fundamental of game theory



B.Sc. Computer Science (Entire) Part III Semester V	
Course Code:DSE-501: Computer Science Paper- IX	
Course Title: Core Java	
CO1	Implement Object oriented concepts using java
CO2	Develop Object oriented software application
CO3	Develop multithreading applications
CO4	Handle exceptions while executing programs
Course Code:DSE-502: Computer Science Paper-X	
Course Title: C# Programming	
CO1	Understand working of .Net Framework
CO2	Demonstrate concept of object oriented programming using C#
CO3	Study importance and applications of exception handling
CO4	Understand working of file handling in C#.
Course Code:DSE-503: Computer Science Paper- XI	
Course Title: Software Engineering	
CO1	Understand the problem domain to choose process models correctly.
CO2	Choose software projects using appropriate design notations
CO3	Measure the product and process performance using various metrics
CO4	Evaluate the system with various testing techniques and strategies 5
CO5	Able to analyze, design, verify, validate, implement, and maintain software systems
Course Code:DSE-505: Computer Science Paper-XII	
Course Title: Data Communication	
CO1	Identify key considerations in selecting various transmission media in networks.
CO2	Familiar with switching and routing techniques in networking.
CO3	Understand different data communication modes
CO4	Understand OSI model and networking protocols
Course Code:AECC-E: English Paper-III	
Course Title: English for communication- III	
CO1	comprehend communication process, methods of communication and flow of communication in business context.
CO2	Apply acquired LSRW skills into real life situations and in professional context
CO3	Compose effective business letters using standard language, style and structure
Skill Enhancement Course – III Course Code: SEC- III	
Course Title: PHP Part I	
CO1	Identify basic PHP syntax
CO2	Create basic PHP scripts
CO3	Know how to send data to the Web Browser
CO4	Apply variables, string, and constant to a PHP a script



B.Sc. Computer Science (Entire) Part III Semester VI	
Course Code:DSE-601: Computer Science Paper- XIII	
Course Title: Advanced Java	
CO1	Develop GUI using Java
CO2	Handle Database connectivity using java
CO3	Develop dynamic web pages using servlet and JSP
CO4	Develop client-server application
Course Code: DSE-602: Computer Science Paper- XIV	
Course Title: ASP.NET	
CO1	Understand working of Asp.Net web application
CO2	Demonstrate Asp.Net server controls
CO3	Study database operations using ADO.Net
CO4	Understand importance and working of state management
Course Code:DSE-603: Computer Science Paper- XV	
Course Title: Software Project Management	
CO1	Implement the basics of Project Management.
CO2	Choose correct Scheduling Techniques as per the software
CO3	Develop Team Development skills and reduce conflicts
CO4	Implement various Software Quality Standards
CO5	Using CASE tools, Software Re-Engineering for creating efficient softwares
Course Code:DSE-605: Computer Science Paper- XV	
Course Title: Computer Networks	
CO1	Familiar with network basics concepts like protocols, topology etc
CO2	Familiar with OSI layered model services
CO3	Understand with switching and routing concepts in networking technologies.
CO4	Familiar with network security concepts
Course Code: AECC-F: English Paper-IV	
Course Title: English for Communication- IV	
CO1	Comprehend the employment skills to have an effective first impression
CO2	Construct effective technical reports and prepare effective presentations
CO3	Use various interpersonal skills as per the need of situation and context
Skill Enhancement Course – IV Course Code: SEC- IV	
Course Title: PHP Part II	
CO1	Create and call functions using PHP
CO2	Create functions that take arguments and return values
CO3	How error is handled using exception handling
CO4	Display and handle HTML forms within a single PHP script

